THE BUILDER

INCORPORATING

"ARCHITECTURE" AND "THE BRITISH ARCHITECT"

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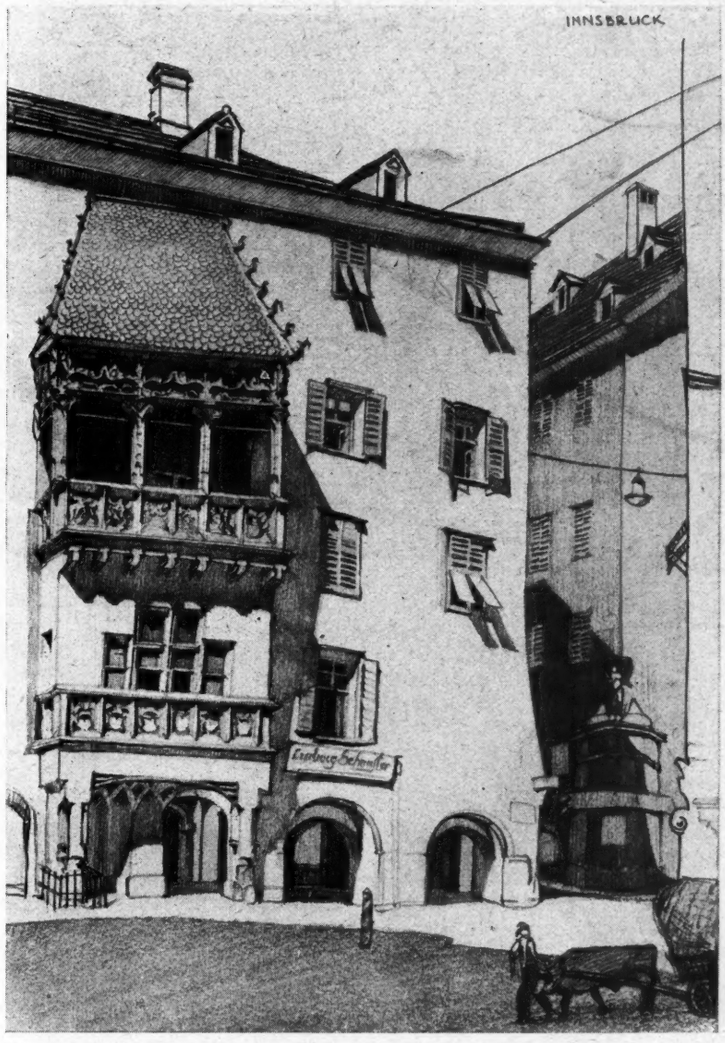


"THE HOUSE WITH GOLDEN ROOF," INNSBRUCK.
FROM A PENCIL DRAWING BY MR. VINCENT WARRILOW.

MEETINGS

Friday, April 22.

Royal Institute of British Architects. Dance Organised by the Dance Club. 9 p.m.

Monday, April 25.

Royal Institute of British Architects. Mr. Charles H. Holden on "London University." 8 p.m.

Monday, April 25-Saturday, May 21.

Garden Cities and Town Planning Association. Exhibition of Books on Planning. At Housing Centre, 13, Suffolk-street, Pall Mall, S.W.1.

Tuesday, April 26.

London Society. Coach Drive to Stoke D'Abernon Church and the Lawrence Weaver House at Leatherhead. Depart Lancaster House. 2 p.m.

Institution of Civil Engineers. Mr. M. G. J. McHaffie on "Southampton Docks Extension." 6 p.m.

Institution of Civil Engineers (Newcastle-upon-Tyne and District Association). Mr. A. Cheyne on "Roads." The North of England Institute of Mining and Mechanical Engineers, Newcastle. 7.30 p.m.

Building and Allied Trades Golfing Association. Spring Meeting at Stoke Poges.

Wednesday, April 27.

Institution of Civil Engineers (Association of London Students). Annual General Meeting. 6.15 p.m.

Architectural Association. Annual Reception. 8.30 p.m.

Incorporated Association of Architects and Surveyors. Mr. F, R. Yerbury on "The Paris Exhibition, 1937." 43, Grosvenor-place. S.W.1. 7 p.m.

Royal Society of Arts. Mr. Eric Gill on "Work and Culture." 8.15 p.m.

Institution of Electrical Engineers. (Joint meeting with the Institution of Chemical Engineers.) Dr. H. J. T. Ellingham on "Electrolysis: Principles of Plant Design and Operation." 6 p.m.

Thursday, April 28.

Royal College of Art. Exhibition by the School of Architecture of Designs and Drawings by Art Students. 66, Portland-place, W.1. 6 p.m.

Friday, April 29.

Town Planning Institute. Mr. P. T. Harrison on "Planning a Suburb." Caxton Hall, S.W.1. 6 p.m.

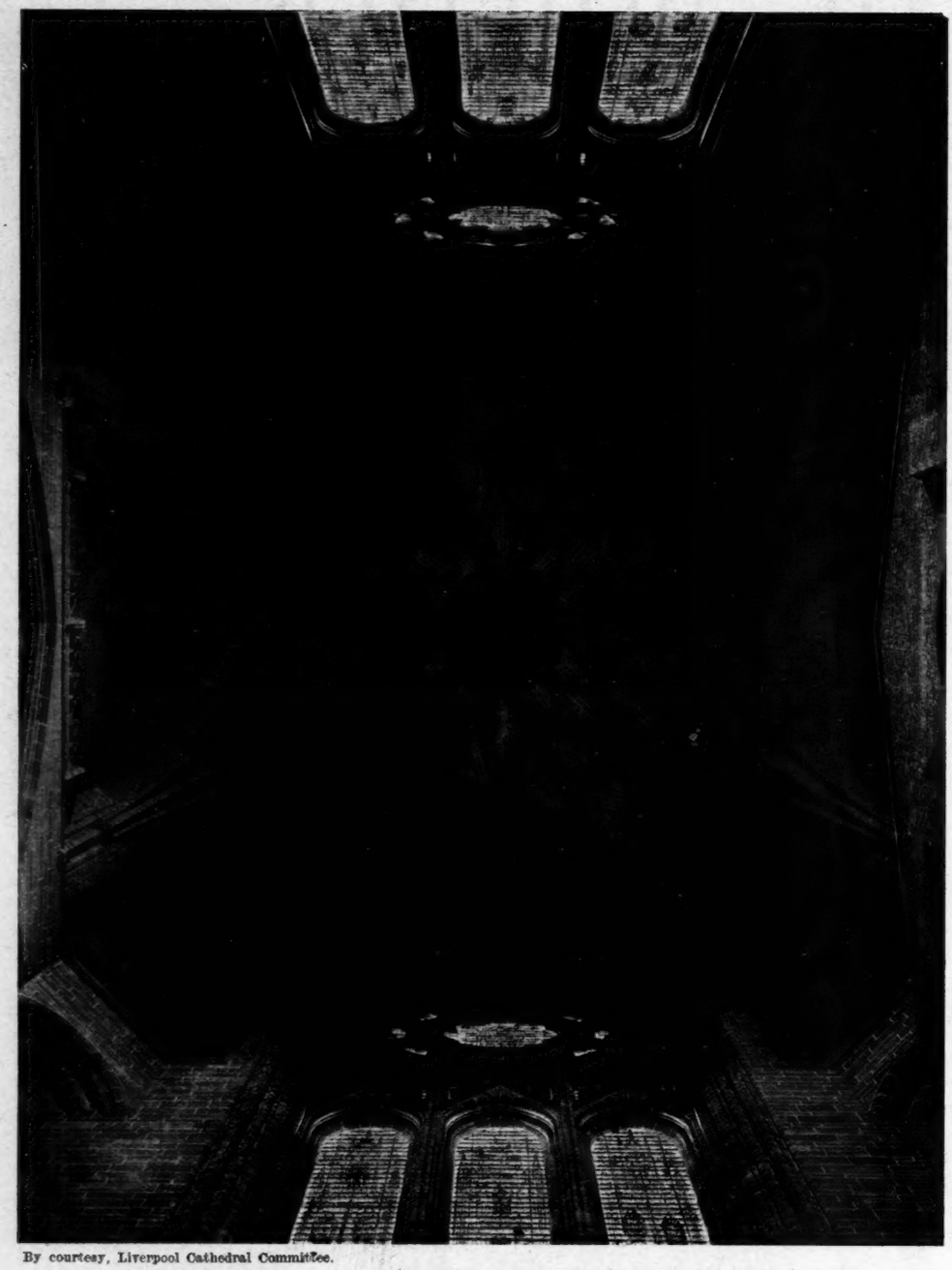
National Housing and Town Planning Council. Annual Conference of Local Authorities in Lancashire and Cheshire. Town Hall, Manchester.

Saturday, April 30.

London Society. Visit to the Old George Inn, Southwark, 77, Borough High-street. 2.30 p.m.

Monday, May 2.

Society of Engineers. Dr. T. Scott Glover on "Modern Welding Practice." Burlington House, W.1. 6 p.m.



By courtesy, Liverpool Cathedral Committee.

THE UNDERTOWER VAULT, LIVERPOOL ANGLICAN CATHEDRAL.

This view of the Undertower Vault of Liverpool Cathedral appears in the Quarterly Bulletin of the Liverpool Cathedral Committee, and gives a vivid impression of the vast size of SIR GILES GILBERT SCOTT'S design for this section of the building. Some further details of the progress of the Cathedral are on page 776.

TOPICS OF THE DAY

REARMAMENT AND THE BUILDING INDUSTRY.

THE Minister for the Co-ordination of Defence (Sir Thomas Inskip) last week met the Joint Consultative Committee of the Building Industry—an opportunity which enabled the Minister to continue the series of appeals which he is making to the organisations of employers and operatives for the acceleration of production on armaments.

Behind the brief official statement issued at the close of the meeting (printed on another page of this issue) lies the story of an organisation which is doing invaluable work in securing that the defence building programme is carried through expeditiously and smoothly, causing the minimum possible dislocation of normal building. As we have pointed out before, the building work provided by the defence programme is not an unmixed blessing. In the first place, in volume it represents a comparatively small proportion of the building industry's annual turnover; secondly, much of it is taking place in rural and ungraded areas, which in view of the urgent nature of much of the work has been responsible for some difficult problems in regard to adequate labour supplies and wage-rates. In the absence of strong, organised control by the two National Federations, it is very possible that something approximating to chaos might have been experienced, with undue augmentation amounting to dilution of labour on the one hand and specially high wage rates, with consequent unsettling repercussions, on the other.

Due to the work of the Joint Consultative Committee and its executive sub-committee, these dangers have largely been avoided. The representatives of the two National Federations are kept posted by the Government Departments of their constructional plans. As a result, arrangements can be made for drafting the necessary personnel, wherever possible, from unemployment "pockets," so that interference with local requirements is largely avoided. At the same time, the Committee, by keeping in close touch with local building proposals, is able to check the natural tendency for operatives to return to their native employment exchanges when any particular job comes to an end.

That an organisation such as this should have been set up and should conduct its business with so little publicity and so much good will and understanding is typical of the way in which the Employers' and the Operatives' Federations in the building industry are to-day meeting their common problems. It is a valuable contribution towards the ideal of a planned programme of building which, it is earnestly hoped, will be continued in some form or another when the immediate necessity caused by rearmament ceases to operate.

LONDON'S WATER FRONT.

TO those whose memory carries back into the last century, the south bank of the Thames presents a perplexing problem. In fact and appearance the Central London portion has remained substantially the same with the sporadic development of County Hall alone appearing as a material change, and that so limited as to influence very little the character of the river.

During the same period there is no part of London which has been more discussed, or has been more frequently replanned on paper, and there is no part of London where opinion is so unanimous as to the worthiness of the site for dignified development, to compare with the many fine buildings, of many periods, which grace the opposite bank, and the fine embankment itself which deals so graciously with the water front.

The old medley of warehouses and wharves which now occupy this first-class site have some sentimental appeal, and, under the tricks of light and atmosphere, are capable of catching a fleeting glimpse of real beauty. But the site is worthy of a more substantial claim to attention, and is also such an obvious field for development that we marvel that nothing has yet been done to bring order out of chaos.

At the recent dinner of the Architecture Club, Mr. R. Holland-Martin dealt with the subject with considerable insight, and other distinguished speakers contributed effectively to the subject. Sir Giles Scott, in particular, had some excellent points to bring forward. His references to the architectural advantages of a high water level, and the changing proportions of bridges in a tidal river, were of special interest in connection with the recently abandoned Thames Barrage Scheme. It was he, also, who called attention to the fact that the south side offers the shortest route between the West End and the City.

Again, however, we have only to record opinions upon this question, and we continue to wonder how long action will be delayed in the conflict of interest. The matter is of wide range, related problems being those of Charing Cross Bridge, the siting of the railway terminus, and the effective planning of a large area of South London. But in an age which has faced boldly the vast subject of Town Planning, it should not be too big a subject to deal with in a comprehensive way, and we are entitled to demand at least initial steps to enact it.

AIR RAID SHELTERS, RATES AND TAXATION.

WE would call special attention to a letter from the Secretary of the National Federation of Property Owners, printed on page 780 of this issue, in which reference is made to the anomalous position which exists as to air raid shelters in relation to rates and taxation. It is pointed out that "at a recent meeting of the Sheffield Corporation Rating Committee the Chief Valuation Officer reported that, under the present state of the law, he had no alternative but to bring before the notice of his assessment committee any improvement in value of property which might be brought about by the erection of air raid shelters, and increase the assessment accordingly."

In view of the fact that the Parliamentary Secretary to the Ministry of Health has stated in the House of Commons that the question is one for the local assessment committee and that the Minister of Health has no power to interfere, it seems inevitable that the ruling of the Sheffield Rating Committee must hold good for the whole country. The Chancellor of the Exchequer has also indicated that expenditure on special underground shelters will be regarded by the Board of Inland Revenue as capital expenditure and not allowable for Income Tax relief. The provision of air raid shelters, therefore, means not only an increase in rates, but also increased assessments for Income Tax under Schedule A.

The position would be laughable were it not serious. On the one hand we have the Home Office urging the owners of factories, offices and houses to take all sorts of precautions against air raids (many of a very expensive nature), and on the other the Government and local authorities standing by ready to receive the resulting increased "rake-off." Cynics might be excused for thinking that the intention is to penalise patriotism, or even to prevent the carrying out of what are agreed to be urgently necessary precautions. Emergency measures such as these are obviously outside the scope of bureaucratic routine. The Government must act quickly and put an end to what is justly described as "an intolerable state of affairs."

NOTES AND NEWS

Royal Academy Exhibition.

A NEW and interesting feature at the Royal Academy Exhibition, of which the private view is announced for April 29 next, will be a display of a series of large mural paintings in the Octagon Gallery, which are intended for the decoration of Essex County Hall at Chelmsford, and will represent scenes in the story of Essex. The paintings are by Mr. Henry Rushbury, R.A., and other artists, the scheme being under the direction of the architect, Mr. Vincent Harris, A.R.A. Mr. Courtauld has generously met the necessary expenses.

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The Development of Scarborough.

A DEVELOPMENT plan for Scarborough, which has been in preparation for some time by Professor S. D. Adshead, F.R.I.B.A., was presented to the Council recently. The programme recommended is expected to be spread over 20 years, but schemes estimated to cost £570,000 are recommended for immediate action. These embrace the widening of the South Foreshore-road and the development of three fine approaches to the sea, in place of the existing restricted roads. The most revolutionary of these is the replacing of the Aquarium by a lowered and widened road, flanked by covered and open parking grounds and gardens containing sheets of water illuminated from below. A gas-heated bathing pool at the entrance to the North Bay has been begun in anticipation of the report, and a second pool is planned as part of a £160,000 pleasure park forming an attractively designed terminal point to this bay about the estuary of Scalby Beck, other features of which are a beer garden on the Continental model, a dance hall, restaurants, and a children's boating lake. A covered swimming bath, restaurant, and dance hall on the site of the Olympia, mainly for excursionists, a second swimming bath in the grounds of Londesborough Lodge, and the provision on Seamer Moor of a country club with two golf courses, a racecourse for point to point racing, and squash and tennis courts are also planned.

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Society of Antiquaries : Award of Gold Medal.

SIR CHARLES PEERS, F.R.I.B.A., formerly Chief Inspector of Ancient Monuments under the Office of Works, is to receive the gold medal of the Society of Antiquaries for his distinguished services to archæology. The Society announce that the presentation will be made at the anniversary meeting on April 28.

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The Progress of Liverpool Anglican Cathedral.

THE Liverpool Cathedral Committee's "Quarterly Bulletin" contains many facts of interest regarding the present position of Sir Giles Scott's Anglican Cathedral. The tower walls have on the average risen a further 4½ ft. during the past three months, so that the total height above floor level is now 251 ft., and above St. James'-road 267 ft. The chief focus of interest has been the octagonal corner turrets, which have now narrowed to such an extent that they can no longer contain the circular staircase and lift well which form the two means of access to the belfry. From the present level those who essay the task of reaching the roof will have to proceed by means of iron staircases on the interior of the belfry. The concrete floor of the belfry has been finished, and work completed on the two concentric concrete rings protruding from the floor which form the basis of the actual bell frame. A photograph of the undertower is given on page 774.

At the last meeting of the Executive Committee the architect submitted, and the Committee approved, his design for the font. The plan provides for an octagonal stepped platform, surrounded on six sides by a low wall, in the centre of which is the actual font. This is twelve-sided with plain surfaces on which single figures are carved in low relief. All the foregoing work is in marble, but above the font is a richly carved baldachino of oak (with a gilded and painted ceiling) supported on four oak columns on which are carved figures of angels.

The Committee state that at March 1 £45,022 was still needed to enable them to complete the section of the building now in hand.

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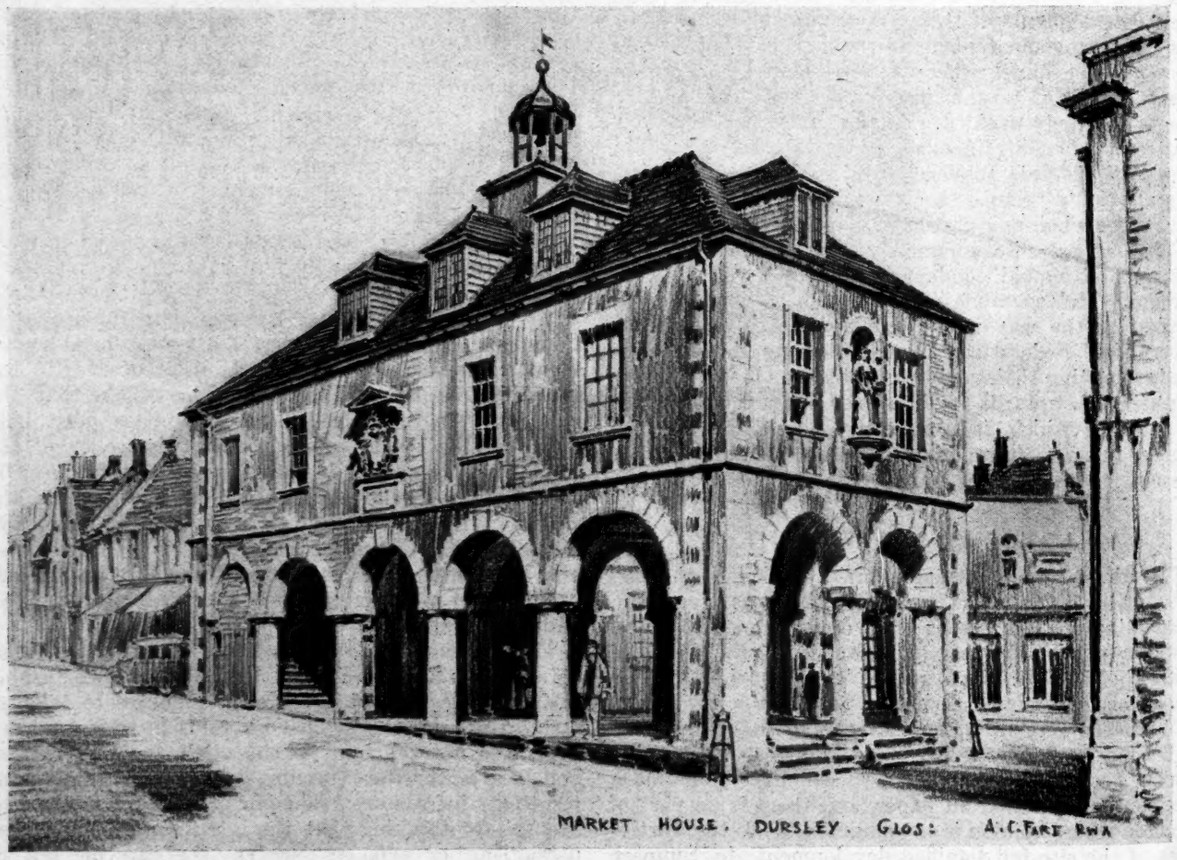
Church of the Holy Sepulchre, Jerusalem.

FOR the first time for over a century the public were forbidden to attend the Palm Sunday services in the Church of the Holy Sepulchre, Jerusalem. The building has been declared to be unsafe because of defects caused by the earthquake shock in October. An illustrated article on the church appeared in our issue for September 6, 1935.



THE OLD MARKET HOUSE, DURSLEY, GLOUCESTERSHIRE.

Built in the reign of Queen Anne, this old Market House is a sturdy and fine example of the period. The old stone roof tiles have been replaced in later years with Welsh slates, but the building remains very much as when erected. The statue of the Queen in the niche, complete with orb and sceptre, and the Royal Arms on the south side are good specimens of craftsmanship. The old hall is said to be as useful to the present generation as ever it was to the past, and forms a rendezvous for all classes to meet and discuss the affairs of this thriving old town. The drawing is by MR. A. C. FARE, R.W.A., A.R.I.B.A.

Cardiff Civic Society : An Interesting Booklet.

THAT active and enterprising body, the Cardiff Civic Society, whose object is "to make Cardiff more beautiful," has issued a well-produced booklet with the title "Cardiff: Its Past, Present and Future," being an address on "No Mean City," given recently by Principal J. F. Rees, Chairman of the Society, to the Cardiff Ratepayers' Association. The address contains an extremely interesting account of the city's evolution, and makes a number of interesting suggestions relating to future development. It is illustrated by Speed's map of Cardiff at the beginning of the seventeenth century, and by a map of the centre of the city as it is to-day, drawn by Mr. Geoffrey Evans. Copies may be obtained from Mr. W. S. Purchon, Hon. Secretary, The Technical College, Cardiff.

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Australian National War Memorial, Villers-Bretonneux.

IT is officially announced that the King will unveil, in the presence of the Queen and of the President of the French Republic, the Australian National War Memorial, designed by Sir Edwin Lutyens, R.A., at Villers-Bretonneux on July 1.

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National Fitness Council Handbook.

THE National Fitness Council have released for publication, through H.M. Stationery Office, a 64-page handbook entitled "Twenty-four Ways of Keeping Fit." It is designed to show that while a lot of money can be spent in the pursuit of health and fitness, there are many inexpensive opportunities of getting fit and keeping fit within the reach of nearly everybody. The book contains a large number of photographs showing people engaged in some active sport. A list of the 22 Area Fitness Committees is also included. Copies can be purchased from H.M. Stationery Office, Adastral House, Kingsway, London, W.C.2, or through any bookseller, price 2d. net.

The offices of the National Fitness Council have now been transferred to No. 1, Queen Anne's Gate Buildings, Dartmouth-street, London, S.W.1. Telephone number, Whitehall 9060; telegraphic address, Natfitness, Parl, London.

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Stained Glass at Lilystone Hall, Essex.

THE window illustrated on this page is now being erected in the Private Chapel attached to Lilystone Hall, Stock, Essex, the country seat of Lord Perry, of Stock-Harvard. In this window of the Annunciation the artist, Mrs. Lilian E. Sutherland, has built upon the tradition of the 12th and 13th centuries, as represented in Chartres and other mediæval cathedrals and churches. The Virgin is shown surrounded by the ancient symbol of an egg-like vesica, representing our Universe, born out of the cosmic radiation of deep purple, fading into light blue. The Virgin herself, being the symbol of the negative feminine principle, is in the blue of the sea and sky, surrounded by small quarries of golden-red, representative of the active, creative masculine force. The top of the window contains the traditional symbols of the Virgin—the Chalice, and the sickle of the Moon, balanced by two flame-like angelic figures of Seraphim, depicting the unknown Heavenly World.

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The Empire Exhibition, Glasgow: The Royal Visit.

THEIR Majesties the King and Queen will spend several hours in the Empire Exhibition after the opening ceremony on May 3, and will visit most of the principal pavilions. Full details of the Royal tour are given in a statement issued by Captain S. J. Graham, general manager of the Exhibition.

STAINED GLASS WINDOW AT LILY-STONE HALL, STOCK, ESSEX.

DESIGNED BY MRS. L. E. SUTHERLAND.
(See this page)

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Bricks and Building Progress.

THE effect of the severe set-back in the figures of plans passed for buildings in February and March is mitigated in some degree by the fact that one of the great brick companies has broken all records by the delivery during the month of March of no fewer than 167,729,484 fletton bricks. The previous "best" monthly delivery by this company was 160,989,437 in June, 1937, and as that effort immediately preceded a recovery in estimated figures for future building, it may be that once again the figures of this record brick delivery will be the forerunner of an improvement in prospective building.

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A Complimentary Dinner to Mr. T. H. Pratt.

THE directors of the firm of Dove Brothers, Ltd., gave a complimentary dinner last week to Mr. T. H. Pratt, who has just completed 50 years with them. Mr. Pratt was one of the original members of the Board when the firm was formed into a private limited company some 32 years ago. All the original active members of the board completed similar or longer periods—the average for the six of them being 59½ years' service in the firm. Mr. Elliott, who is still active, completes his 60 years next year. The names of the first directors, with the duration of time spent with the firm, are: The late F. J. Dove, 72 years; the late F. L. Dove, 56 years; the late J. C. Amphlett, 51 years; the late A. Stansfeld, 63 years; Mr. C. W. O. Elliott, 59 years; and Mr. T. H. Pratt, 50 years; a total of 351 years.

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Air Raid Shelters : Visit to Paris.

THE Cement and Concrete Association, 52, Grosvenor-gardens, S.W.1, are organising a visit to Paris to inspect the construction of air raid shelters. The party, which will consist mostly of mayors and borough surveyors, will leave by the train ferry on the morning of Sunday, May 8, and return on the train ferry on the morning of May 11.

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Ripon Cathedral : Roof Repairs.

THE Dean of Ripon Cathedral has stated that so far as could be ascertained the damage done by the death-watch beetle to the cathedral roof has been repaired and all urgently essential work on the roof completed. The work, he added, had taken about six years. The total cost had been £10,000, towards which they had collected and paid away £8,000.

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Roman Relics: An Essex Discovery.

SAMIAN ware and fragments of Roman tiles and oyster shells, ploughed up in a field at Rayne, Essex, have led to the discovery of tessellated pavement and a Romano-British settlement of about A.D. 200.

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New Directorships.

WE are informed that Mr. Harold Holloway and Mr. Rupert Holloway have been appointed directors of Messrs. Holloway Brothers as from March 29.

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Royal Society of British Sculptors.

THE following have been elected associate members of the Royal Society of British Sculptors:—Miss Julian Allan, Mr. Frank Dobson, Mr. Eric Gill, A.R.A., Miss Dora Gordine, Mr. Thomas Huxley-Jones, Mr. Maurice Lambert, Miss Erica Lee, Miss Helen V. Mackay and Mr. Charles Sykes.

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Timber Houses in Scotland.

THE subject of timber houses was discussed recently in the House of Commons during a debate on Rural Housing in Scotland, when Mr. W. Elliott, Secretary of State for Scotland, announced that such houses would be eligible for the full grant if they complied with the conditions laid down by the Department of Health.

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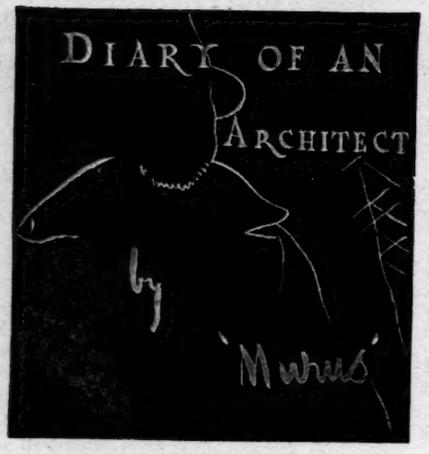
Professional Announcement.

MESSRS. EDWARDS, REID AND BOOTH have taken into partnership Mr. Kenneth Andrew Begg, A.R.I.B.A., as on and from April 1. The practice will be carried on as heretofore jointly by the present partners, Mr. Sidney James Edwards, M.A. (Cantab.), F.R.I.B.A., F.S.I., and Mr. Herbert Henry Reid, A.R.I.B.A., Dip.Arch. (Aber.), and Mr. Begg, under the style of Edwards, Reid and Begg, F. and AA.R.I.B.A., Chartered Architects and Surveyors, 119-120, Armenian-street, Madras (and Prince Building, Prince-street, Colombo).



SPRING CLEANING.

April 16.—You know, there is a great danger which faces any person who would set down in writing those thoughts which pass through his mind and those actions in which he indulges. Now, there is no such thing as a true generalisation; or, rather, it is not possible by giving one answer on each question to arrive at the truth. The mind is like water; all minds are fluid like water, and the direction of a current is dependent on the influence of other currents. And since analogies are as dangerous as generalities, then you must regard that last sentence lightly.

This pompous opening means one thing—a conscience apropos my more recent writings. As I look back on them a sea of sweeping statements comes up and administers a mental "sock on the jaw." Sandwiched in between all these definite events are a score of miscellaneous thoughts which have never seen the light of day. Since good organisation implies a periodic sweeping up, therefore I am going to write down my tail ends of thoughts—a résumé of those minor things I normally cannot pin a date to.

Adrian Jones died recently; age ninety-four; occupation, sculptor; best-known work the Quadriga on the summit of the Triumphal Arch on Constitution Hill. Once, when I was feeling particularly unsuccessful and wondering, at the age of twenty-five, what was to become of me (that is not true, but it is good journalism), he told me how he had been in the Army until he was forty-five, retired, became a sculptor, and achieved an enormous amount of work. Result—he made me feel my age.

* * *

Something must be done about reducing contemporary architecture to a coherent standard. Oliver Bernard has thought out a 7-in. standard for building; Christopher Nicholson works on a grid both vertically and horizontally of 15 in., and a client of mine has suggested π as a norm for design. Recently I had lunch with Colonel Rowe—director of London Brick Company—and Fitzmaurice, of the Building Research Station. We talked a great deal about the present unnecessary complications in building and the possible solution; and out of that interesting lunch I feel just this. Standardisation must come from the industrialists, because they have the money necessary for research, and the alteration of plant must, ultimately, be in their control. Pilkington Brothers, the London Brick Company, British Steelwork Association, Cement Marketing Company, Crittalls, National Radiator Company, Electrical Development Association, Imperial Chemical Industries, the Timber Development Association, Lead Development Council, and Coal Utilisation Council represent a few names that occur quite arbitrarily of concerns or representatives of concerns who, if they got together, could dominate the English market with the greatest of ease. A referee for each concern could form a committee, and meet a number of committees representing architecture and engineering, and out of these meetings a report could be formulated which could state a standard for all building. I am aware that a great many arguments would be caused by the definite suggestion of a norm, but the answer lies in the fact that it would be to the ultimate good of all concerned, and for those who disagreed there is always the present confusion, to which they can adhere if they wish.

Briefly, let me clarify what I mean. A brick, a metal window, an R.S.J., a sheet of glass and a floor board have no relation in size excepting, occasionally, in the most elementary way. The work of the foreman on the job is handicapped enormously by this lack of a standard, and this handicap, in cash value, is gigantic. Bernard has worked on 7 in. and the multiple of 7 in. as being possible for all forms of manufactured goods. He may be right, he may be wrong. A 9 in. by 4½ in. by 3 in. brick, for instance, does not suggest the *skin* of a framed structure. Tradition has taught us to believe in the brick wall as a structural wall, and science has produced the cellular brick. Therefore, a large cellular brick (easily handled) must evolve. Also, it must bear relation to the ideal standard steel window sizes, and the glazing of these standard windows can be of a better glass, mass-produced. (Industrialists please note—You may use me as a coconut shy if it will make you air your own views!)

Hardly a "tail end"—but still . . .

* * *

April 18.—I saw Maxwell Fry's house in Frognal Way, Hampstead, and liked it. To those who feel contemporary architecture is violent I would say, pay a visit and realise how modest it can be—how vulgar much of the "traditional" architecture which is near this house really is. The flat roof, it is true, looked like a windswept backyard, and it is high time a finish to the concrete wall was evolved—but it is the finest contemporary house I have yet seen. Returning home through Camden Town gives one a vivid illustration of chaos following on the Industrial Revolution—particularly in the rain.

* * *

The flats in London. When are speculators going to reach saturation point? One, I know well, feels the time is very near, and is thinking in terms of highly serviced communal buildings. Flats go up so quickly, or so it seems, because the other day I thought to visit Cyril Farey. I drove down Albert-road, and could not find the house I knew so well. Returned home, telephoned, and found the house was still there, wedged in between two blocks of flats—so insignificant that it is impossible to find it without the clue; a nice house it is, too.

And who does the flats? I was once told that the biggest architectural practices in London were Gordon Jeeves, Marshall and Tweedy, T. P. Bennett, and W. E. Masters. Certainly these firms have been responsible for a great deal of flat building, and what is more, financial people involved in this particular form of business—*i.e.*, the gents in the City—rely implicitly on the ideas of these architects for building exactly what is right on exactly the right site. In other words, an extremely capable quartette.

* * *

Another "tail-end" which might form the subject for a headpiece—Countess Haugwitz-Reventlow's—Barbara Hutton's, if you like—new house on the old St. Dunstan's site in Regent's Park. I believe Wimperis, Simpson and Guthrie are the architects, and it is visible as one drives through the Park-road to Baker-street. Georgian it is—brick and stone—and, since the monied person is the new patron of the arts, the aristocrat a back number, I feel the design might have echoed the new patron and not the old.

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And all these minor matters, now they are discussed, dispense with my litter. You see how disjointed these ends can be; how difficult to compose into reasonable form; how easy to write a sermon each week rather than the tittle-tattle.

Apropos gossip, you miss the really interesting parts because, although I am not malicious and loathe destructive writers—that is to say, writers who merely destroy owing to their inability to build up—I do occasionally write down without fear or prejudice something which happens to be fact, and up pops the Editor, down comes the blue pencil, and out of the window goes a possible libel case!

* * *

April 19.—Now, my personal diary!

Some snags in building practice I have come across. You may know them or you may know better—I am willing to learn from you.

Number 1 is heating. Convection or radiation, and how to determine the one and the other. The word radiator is a misnomer, because the method of heating is convectional. A heated carcase or heating in the structure requires 12 hours to cool—12 hours to rise. The effect is to some persons rather woolly; they feel oppressed.

I am using radiators as being at present ideal for my purpose, and the greater the number of columns, the greater area of heat distribution. Snag: radiators require to be cleaned to retain their efficiency, and these multi-columned radiators cannot be cleaned easily (Yes, I know there are special brushes, but nobody else has heard of them). Another snag—grilles over radiators cost money, retard efficiency, and I do not know of one radiator which is designed well enough to stand without a cover. All this means that industrialists must begin to call in industrial designers, and follow the lead of America.

* * *

The Radio expert Campling is supervising an installation of television, radio and gramophone I am working on. His ideal is to have small wireless sets fixed in a cupboard and pre-selected to two London programmes; extensions to speakers and each extension having three switches—two for radio and one for radio-gramophone. In this case I hit against one snag you may benefit from. Correct length for television is 12 ft.; the fire was in the centre of the room, between the "visioner" and the vision, and the answer is—no good! No light source must come between.

* * *

Now that really is all; my mind has had its spring clean.

Mwus

CORRESPONDENCE.

[While we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

Is the Easel Picture Obsolete?

SIR,—My interest has been aroused by recent comments in your columns on the present-day prospects for the artist, as expressed in your Note, "Art and Individuality" (April 8), and in what "Murus" writes on the same subject (April 16). Is the easel picture then obsolete? So it would appear, if we are to accept the comments of your contributor. As he writes: "The easel picture is one of those things for which I cannot conceivably find a future." And in your editorial on "Art and Individuality" it is pointed out that we must pay more for well-designed articles and therefore do not want to buy them! Hence the plight of so many young artists and designers.

These are harsh doctrines for the artist, but have we reached to the true causes? Rather it would appear as the expression of a passing phase resulting from our entanglement in the machinery of this mechanically mass-producing age, which has made paramount commercial values only! This mixing up of the picture, as of creative art generally, with mass-production, mass-produced prices and mass-produced views, to which the creative arts are to conform, betrays almost entire ignorance of the nature of art, which is not to be contained within the limitations of these mass-produced views. We get what we pay for, and we do not want to pay for art. To quote from "Murus," "The machine has arrived . . . and completely different standards of living." This is merely the statement of tendencies growing through recent years which we have come to accept—none too wisely—and there are stronger reasons for rejecting than for accepting such a point of view.

I know that artists themselves do not escape the contagion of the commercial outlook, in their difficulties trying to have it both ways; nor must we be content always to accuse "the other fellow." The issue is also much confused by a loss of respect for the arts arising out of the plethora of picture-making of sorts, an outcome of the artificially fostered technical training in the subsidised government art schools, of very doubtful usefulness. The result has been that this developed technology has confused the nature of art, instead of furthering respect for it; and in the kind of buildings now prevailing there is little place for pictures or money for decoration, which their wholly material aim opposes. The swift mechanical efficiency with which such buildings are erected is almost wholly unconnected with æsthetic values.

I have no wish to write down the virtues of our own time, but it may be doubted whether there exists the composure, tranquillity of mind, the freedom and the belief to sustain the arts. Rather do we flee from the menace of our imagination, which is opposed to so much we accept to-day. The creative arts cannot subscribe to an economic creed, which is largely false in its values and seeks to exploit them. It is ourselves who are at stake, for a people mostly get the government they deserve. It is the same with the arts. But we tend to hate what we do not understand, and dislike the challenge of the creative arts to so much of our acting and thinking.

"Murus" in your columns tells us that he likes to find his picture in real life, and gives a pleasant description of a scene that has pleased him as a challenge to the existence of the easel picture. So I may quote, if not too stale, that answer of the painter, J. M. W. Turner, to the countryman, who, looking over his shoulder at what he was painting, remarked: "I don't see it like that," and the artist's reply: "Don't you wish you did?" It is not unkind to say that such views argue an entire ignorance of the nature of art, a sort of polar darkness overhanging them. But the arts will survive, and so will the picture, perhaps, at its best one of the noblest creations of man. If to-day we are destroying them it is but to create them again. For destruction and re-creation seem the law of the universe. Whether out of this civilisation, or from the depths of its dissolution—for I perceive that civilisations are mortal—the creative arts will be born again, as an eternal element in the creative renewal of things. ISIS.

"An Alternative to Tenements."

SIR,—Mr. Trystan Edwards's articles entitled "An Alternative to Tenements" are well worth consideration in high places. As a consequence—like G.B.S. on the radio—I was tempted to preface this letter with the words: "Your Majesties, my Lords, Ladies, and Gentlemen," because I consider that Mr. Edwards has put before us all some really creative ideas concerning slum-clearance and re-housing.

Miss Elizabeth Denby's reaction to these articles seems to suggest that she considers these ideas unpractical; of course they are, at present. All dreams are unpractical, and yet dreams are the stuff from which all sound human activity emanates.

Mr. Trystan Edwards, if given a sympathetic hearing and practical encouragement, could, I know quite well, bring his ideals to earth. For the good of architecture, and for the good of the British worker and his family, I hope that, with the influence of your paper behind him, he will be able to carry his "Alternative" a step further, for, as Napoleon said:

"C'est l'imagination qui gouverne le genre humain."

W. NASEBY ADAMS [A.R.I.B.A.].
14, Gray's Inn-square, W.C.1.

Shopfront Design and the Architect.

SIR,—Your comments in "Topics of the Day," in your issue dated April 8, regarding the block of shops and flats recently executed in High-street, Epsom, together with the photograph of the completed building, call, I think, for further remarks from a different viewpoint.

With due respect to the architectural profession, I disagree entirely with your inferred opinion that, for the general good, shopfronts should be designed by an architect, and I would like to say a few words in favour of the claims of the shopfitting trade.

It will, I think, be granted that no architect can be a specialist in each and every one of the multifarious crafts connected with the construction and equipment of all types of buildings, and I think that most members of the profession realise that specialist advice is, upon frequent occasions, necessary.

To prosper in these days of competition and price-cutting, a shopfitting firm must possess this specialised knowledge and experience as applied to each and every retail trade, and the designers employed by such an organisation must be able to combine and co-ordinate pure design with fitness for the specific needs of each individual shopkeeper.

In the case of a building such as the one which you illustrate, the appearance of the whole depends to a very great extent upon the good design of the actual shopfronts. I certainly agree that the various frontages should, whilst retaining very considerable and essential individuality in design and treatment, be co-ordinated to a certain extent, both with their neighbours and with the elevation of the building as a whole, and this co-ordination could best be ensured by the architect responsible for the building stipulating the general lines of the various horizontal members, etc., and, upon occasions, restricting the choice of materials, being also given, as the landlord's representative, a general power of veto or modification of the drawings in connection with the proposed work, which would be submitted to him before any contract was placed by the tenants.

It may be said that one has only to see some of the shopfitting work, designed and executed in some of our leading streets by shopfitting firms, to realise that the lack of taste often displayed should not be permitted, but general control by the architect responsible for the design of the whole building should ensure that normally accepted standards of taste are not departed from, provided, of course, that he is sufficiently open-minded and unbiased to realise that the type of design which he himself favours does not necessarily appeal to everyone, and provided further that the prospective tenant either possesses considerable capital or is allowed a reasonable sum by the landlord for the installation of a shopfront, in proportion to the importance or otherwise of the site.

I think, further, that harmony and a pleasing appearance would be assisted by a modification of the almost invariable practice of forming, as part of the design of the building, a wide stone fascia, which has the effect of restricting the space within which the shopkeeper's advisers have scope to develop their ideas of design.

Apart from the point of view of the individual trader, a building is often no sooner erected than the general line of the fascia is spoilt by the encroachment upon the stonework of the standardised shopfront of one or more of the larger multiple concerns, whose site-enhancement value very few building owners are prepared to ignore, with consequent injustice to their less influential or affluent neighbours and disruption of the design of the façade.

In this respect I would like to see a reversion to the older practice of finishing a building with pilasters, either with or without trusses, together with a string course to form the cornice above the shopfront. In effect this would be a somewhat belated realisation that the architectural purpose of a fascia is not that it should be widened to an indefinite extent to form a nameboard or advertisement, which necessary adjunct to a shop should be designed as an integral part of the shopfront and show windows, independently of any frame to the whole which is formed as an architectural feature of the building.

To summarise, I consider that a prospective shopkeeper's interests can best be served by approaching a shopfitting firm of repute to design his shopfront, which is a service normally rendered free of cost, the approval of the design and specification being in the hands of the architect,

acting on behalf of the landlords, and, indirectly, of the community at large.

I should be loth to endeavour to obtain free publicity in your columns, and, therefore, sign myself,

J. S. D

Air Raid Shelters : Rates and Taxation.

SIR,—At a recent meeting of the Sheffield Corporation Rating Committee, the Chief Valuation Officer reported that, under the present state of the law, he had no alternative but to bring before the notice of his Assessment Committee any improvement in value of property which might be brought about by the erection of air raid shelters, and increase the assessment accordingly.

It is more than probable that a similar ruling will be made by assessment authorities throughout the country, especially in view of the statement, made by the Parliamentary Secretary to the Ministry of Health in the House of Commons recently, that the question was one for the Local Assessment Committee, and the Minister of Health had no power to interfere. Both landlords and owner-occupiers throughout the country indignantly protest against the state of the law which permits owners who engage in this urgent, patriotic and humanitarian expenditure to be mulcted in increased rates and, presumably, increased assessments to Income Tax under Schedule A.

They most cordially endorse the pungent question put by Colonel H. L. Nathan, M.P. for Wandsworth, C., to the Parliamentary Secretary: "Is it really seriously the intention of the Government that the more public-spirited persons spend on providing air raid shelters, the more they are to be penalised?"

Property owners and occupiers protest also against the unsatisfactory reply given by the Chancellor of the Exchequer to a question asked by Mr. R. C. Morrison, M.P. for Tottenham, N. Sir John Simon intimated that the Board of Inland Revenue would regard expenditure on special underground shelters as capital expenditure and not allowable for income tax relief.

Owners of factories, offices and houses throughout the country should, without delay, bring pressure to bear upon their local Members of Parliament to insist upon immediate legislation to put an end to this intolerable state of affairs, and should seek the co-operation of their workers and tenants, who are equally vitally interested in removing this obstacle to the building of adequate protection against destruction from the air.

T. SIMPSON PEDLER, General Secretary,
National Federation of Property Owners,
Westminster, S.W.1.

Copyright: Building Research Station.

FIG. 1.—EFFLORESCENCE FROM CEMENT MORTAR ON BURNT CLAY BUILDING BLOCKS.

Efflorescence on Brickwork.

SIR,—It is interesting to note that experienced builders, such as your correspondent "W. P.," whose letter on this subject appears in *The Builder* for April 15, are realising that many cases of efflorescence on brickwork are due primarily to the use of an unsuitable mortar. If the appearance of efflorescence on the bricks is to be avoided, the pore characteristics of the mortar should be such as will allow moisture to evaporate more freely from the exposed edges of the mortar than from the brick faces. Under such conditions, any salts in solution in the moisture will be deposited on those edges rather than as a disfiguring "bloom" on the bricks themselves, since the salt-containing moisture will be drawn to the mortar joints by the wick-like action of the evaporation.

What, then, constitutes unsuitable and suitable mortars? In general, research at the Building Research Station and at various research institutions of similar character abroad has shown that dense (say 1 : 3) Portland cement mortars, owing to their relatively impervious nature, divert evaporation and, hence, the possibility of efflorescence, to the brick face, whereas the pore-characteristics of mortars containing appreciable proportions of lime, such as cement-gauged lime mortars or equivalent hydraulic lime mortars are usually such as to retain the soluble salts in the joints. The accompanying view (Fig. 1), reproduced by courtesy of the Building Research Station, illustrates a case of efflorescence which seems clearly to be associated with cement mortar used. Marked efflorescence is to be seen (X) around a steel beam bedded in cement mortar, and (Y) along a line coinciding with an exterior cement fillet running down the abutment of an adjoining sloping roof against the wall. Moreover, other investigations carried out at the Building Research Station have shown that the replacement of anything up to 50-60 per cent. of the cement in a 1 : 3 mix by lime does not affect the strength of the brickwork laid up with such mortar. The curves of mortar and brickwork strength given in the diagram (Fig. 2) show that the crushing strength of piers laid up in 1 : 1 : 6 cement-lime-sand mortar is practically the same as piers of the same brick laid up in 1 : 3 Portland cement mortar.

It would seem, then, that except in very heavy engineering or foundation work, the maximum strength sought by "W.P." is equally as attainable with a lime-cement mortar as with cement mortars, particularly when it is realised that, as the diagram shows, ultimate strengths of the order of 1,000 lb./in.² (= 64 tons/ft.²) are attainable with bricks of but moderate strength, and it is rarely that working loads of, say, ⅛th of this stress (10 tons/ft.²) are encountered in normal practice. Hence, lime-cement mortars or their hydraulic lime equivalents are to be considered as more suitable mortars than cement-mortars from the efflorescence point of view, and as equal to the latter in strength for most purposes. Fuller treatment has been accorded to these points in two of the Technical Bulletins which are issued gratis by the Clay Products Technical Bureau of Great Britain.

L. W. BURRIDGE.

19, Hobart-place, S.W.1.

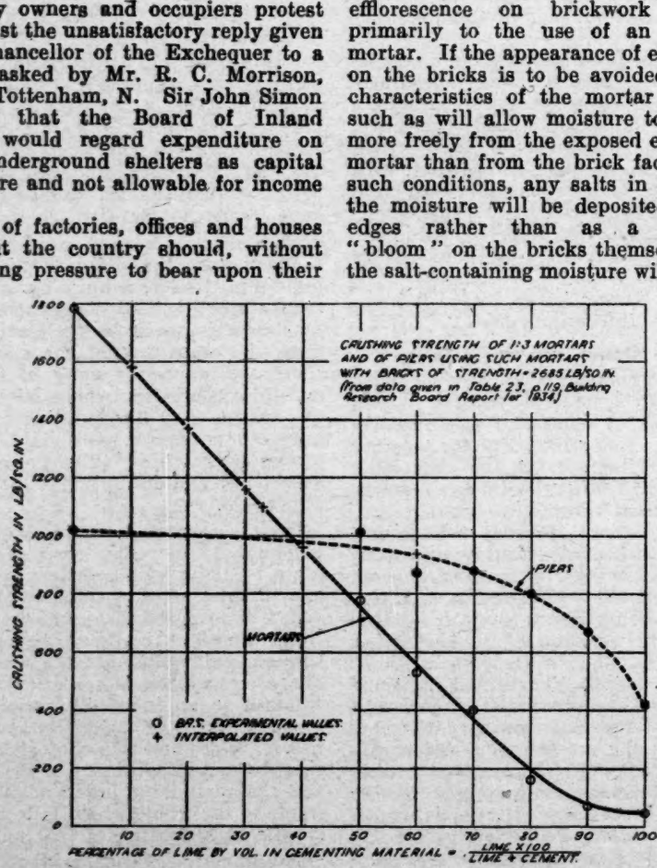
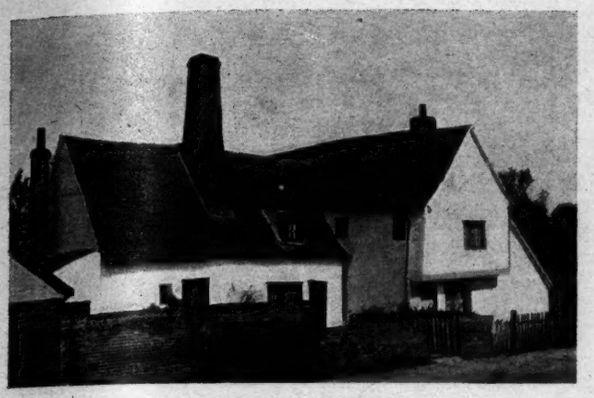

CRUSHING STRENGTH OF 1:3 MORTARS AND OF PIERS USING SUCH MORTARS WITH BRICKS OF STRENGTH = 2685 LB/SQ IN. (From data given in Table 23, p. 119, Building Research Board Report for 1934.)
CRUSHING STRENGTH IN LB/SQ IN.
1800
1600
1400
1200
1000
800
600
400
200
0
PIERS
MORTARS
O B.R.S. EXPERIMENTAL VALUES
+ INTERPOLATED VALUES
10 20 30 40 50 60 70 80 90 100
PERCENTAGE OF LIME BY VOL. IN CEMENTING MATERIAL = LIME X 100 / LIME + CEMENT

FIG. 2.—Crushing strengths in lb./in.² of 1 : 3 mortars (the cementitious material being mixtures of lime and cement exhibiting normal qualities (the sand, Leighton Buzzard pit sand) and of piers built with such mortars using bricks having an average crushing strength of 2,685 lb./in.² (173 tons/ft.²) (From data given in Table 23, p. 119, Building Research Report for 1934.)



NEAR LAVENHAM, SUFFOLK.

A COTTAGE NEAR DUNMOW.

DESIGN DETAILS

By "DOMUS."

XVIII.—FACADE DESIGN IN SMALL HOUSES.

It is often said that "a good plan will lead to the making of good elevations." This, like many generalisations, is partly true. But it is a dangerous half-truth. Facade design cannot be dissociated from planning, but it must (if it is to be good) result from the close relation and adjustment of one factor with another to produce a complete whole; then "architecture" is the result.

The successful designer can think of his building in the solid all the time he is designing, and, like the good chess player, readily sees one or two moves ahead. He may have arrived at a tentative plan arrangement, but in doing so he is thinking how this will be roofed and whether in the main the facade elements and the chimney stacks will (as well as the roof) give those design qualities which good domestic architecture always has—for instance, when the fireplaces are put in such positions in their rooms that they best serve them, will they build up to one or two *well-placed* stacks on the roof? Will these rise centrally from the ridge? Will the roof plan be simple and dignified or a confused and difficult affair? If the whole roof comprises two or more intersecting ridges, will the parts of the roof build to provide a proper expression of the plan form? These and many other questions, such as the all-important matter of the plumbing fittings and their position in the cube, beset the domestic designer, whose job is always one of compromise between plan, section and elevation.

Then there must always be the matter of cost. Fireplace flues *must* be grouped into one or two stacks to economise stack brickwork. Many architects rightly consider that in small house design one large stack (or two medium stacks) are better than three small ones.

Nearly all small houses fall into one or two categories—formal or informal. (To-day we say symmetrical or a-symmetrical!) Most, in either case, can be further divided as being dominated by their roofs or of a kind where their walling area takes pride of place to be coped with a parapet behind which the roof is secondary. Houses with flat roofs are obviously of this type, but so are most small houses with roofs pitched at less than 40 deg.

In her domestic architecture England has a wonderful legacy of splendid examples. Among these none is more lovely than the small house and cottage dwellings to be found everywhere we choose to go. This great heritage has the admiration of nearly every country in the world. Now, why is it that these often modest buildings are counted such gems of architecture? The answer lies surely in four facts: (1) Their honesty; (2) their materials and craftsmanship; (3) their simple goodness; (4) their harmony with the lie of the land whether in stone or brick districts, hilly or flat country.

By honesty, we mean truth and, for the architect, no better phrase summarises its meaning concerning house-design than Shakespeare's words: "This above all, to thine own self be true." Don't be pretentious; make the house (inside and out) "costly as thy purse can buy; rich, not gaudy." What splendid advice. Don't be fashionable. Houses last longer than clothes and motor cars; those that are the "last word" to-day will be out of date in ten years' time.

Modern methods of transport and the plethora of materials available to-day have led to the rapid growth of brick dwellings in stone districts; concrete houses near brick districts, and all types of "architecture" regardless of surroundings, local building traditions or suitability for their sites. The craftsmanship which is an inherent quality in hand-made bricks and hand-made tiles is often lacking in contemporary work, while the leisured craftsmanship found in the fine joinery work and patterned bricklaying of days gone by is all too rare in present-day work.

Perhaps the fourth fact, "simple goodness," says most in praise of traditional English domestic architecture. Thousands of the fine small houses always arrest our attention and compel our admiration because they have simple, dignified roofs and well-placed chimney-stack (or stacks).

It is not the writer's intention to place any special premium on "old work" or to ban contemporary work, but no architect can fail to find satisfaction in that broad dignity possessed by so many small houses like those illustrated in this article. Many of them, it is true, have very simple plans lacking some of the rooms necessary in the small house of to-day. Some, doubtless, provide less window areas per room than modern by-laws demand. Others have rooms of insufficient height. Nevertheless, these present-day needs do not affect the roofing or chimney-stack design on a contemporary small house. Indeed, the more general use of electricity helps the present-day architect, who can easily advise at least one electric fire where a coal one could not be "gathered" to his one pet ridge chimney!

Several of the houses show the great beauty and design value of fine roofing. The flat-roofed house presents facades rather like unhatted faces; if they are *very* beautiful, good complexioned and with fine features no one has a word to say, but how many people look better in a hat and how many more houses look better with a roof. This really is true of present-day work, where we can so seldom afford to provide fine enough features but are compelled to use metal windows and entrance doors having no craftsmanship to beautify them.

AT WELWYN GARDEN CITY (DE SOISSONS AND KENYON).

WEATHERBOARDED FARMHOUSE AT PUCKERIDGE.

NEAR WYMONDHAM NORFOLK.

NEAR DUNMOW, ESSEX.

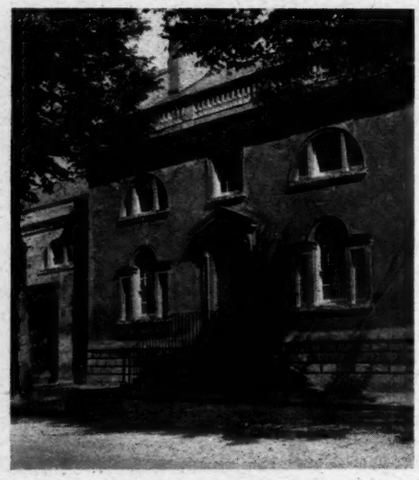
The illustrations are left to speak for themselves (but notice their fine, lofty ridge chimneys and, on the Amersham House, the way the gable stacks "stop" the simple ridge and "close" an excellent composition), and they do speak abundantly to the student with eyes to see a few of the qualities which will always denote English architecture at its best.

* * *

If the preceding seventeen articles in this series have appeared too elementary, the author offers apologies to the architects and others who may have read them. They have been addressed primarily to students and others who are not yet the Christopher Wrens of the 20th century. All the articles have hinted at the importance of quality in detail, the beauty of fine craftsmanship, and restraint in architectural design.

In recent years much has been said about "functionalism," "horizontality," and the house as "a machine in which to live." Great architecture will never be made out of any such A B C or code of catch-words. Nor will "architecture" result from attempts to run with fashion (here or abroad) or imitate the rapid progress seen in motor car design.

If architects are compelled to build cheaply to provide large houses for little money, let them always remember Shakespeare's great words, "costly as thy purse can buy, rich, not gaudy." Herein I feel sure is the way to better architecture in an age when "home" for many people has meant less than it did in those days when it meant so much. To-day the motor car, the cinema, more out-door life, foreign travel, smaller families, wives working in offices, and the cost of living have most certainly made most of us less keen in spending overmuch on our own little plot of land and our homestead. Unless all of us take to living in flats, however, houses will still be built. Although we, as architects, may not have the money to lavish on them which we imagine (often wrongly) was the luckier lot of the architects in years gone by, we can produce "architecture" if we know whither we are going. Nothing can ever replace those qualities which fine craftsmanship and beautiful detail give to building, but it is for us "to cut our suit according to the cloth" and give (like Thomas Chippendale always gave) a little really good quality, even if, in other parts, our design must seem a little plain.

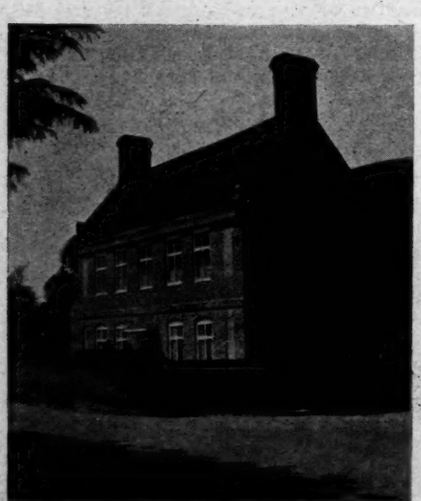


AT MORETON-IN-THE-MARSH.

Although motor car design has made rapid progress in recent years, it is interesting to hear that some designers consider that the latest stream-lined bodies do not make any worth-while advance on those of a few years ago. It is equally interesting to realise full well that in spite of changed social ways, many people pay fancy prices for Georgian houses and live in them very reasonably. The writer is not for one moment advocating building houses in any stylised manner, least of all a style which (regrettably) too many are adopting for reasons of fashion Perhaps one well-known architect in the past alone built up a great practice in this way—Robert Adam—but he happened to be a genius.

Several contemporary architects (not all R.A.s) are carrying on the great traditions of English domestic building in the way that it has always been carried on in the past. By hard work and modesty they are doing good architecture, as only good architecture can be done, by being "True to themselves."

(*Concluded.*)



AMERSHAM HOUSE.

COMPETITION NEWS

Police Station, Marylebone-road.

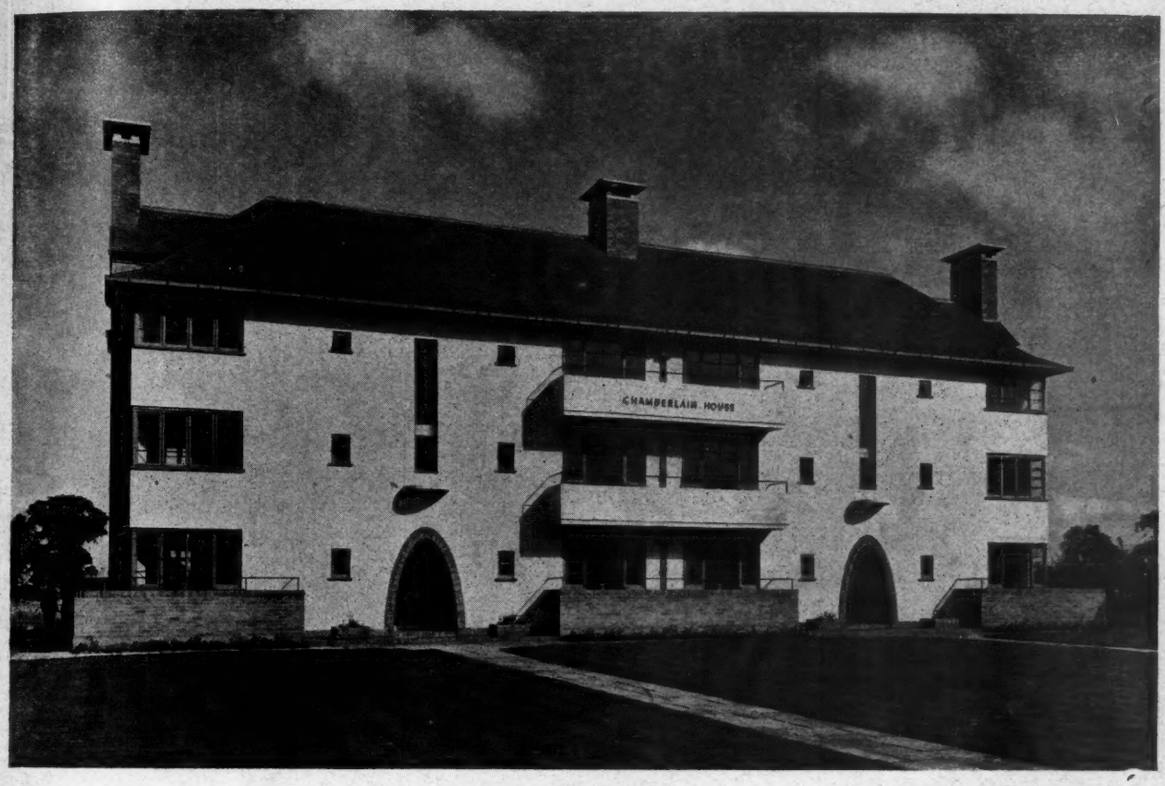
The Receiver for the Metropolitan Police District, New Scotland Yard, S.W.1, invites architects of British nationality resident in the United Kingdom to submit designs in competition for a new police station proposed to be erected on a site in Marylebone-road. The assessors are Mr. G. MacKenzie Trench, O.B.E., F.R.I.B.A., F.S.I., and Mr. S. Rowland Pierce, A.R.I.B.A., and premiums of £300, £200 and £100 are offered. The last day for submitting designs will be August 12, and questions must be received not later than June 1. Conditions and instructions (deposit £1 1s.) can be obtained from Mr. A. T. Shepherd, Secretary, Receiver's Office, New Scotland Yard, London, S.W.1.

CURRENT COMPETITIONS.

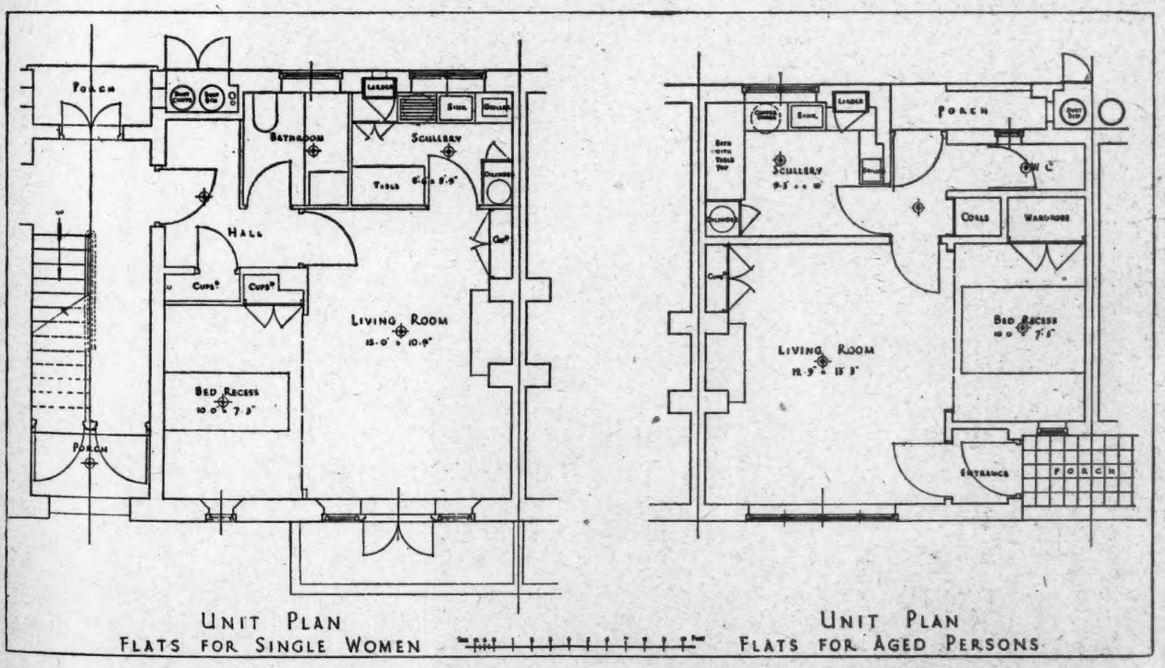
Timber cottages for agricultural workers, for Timber Development Association. Sir Guy Dawber, R.A., P.-P.R.I.B.A., Mr. C. H. James, A.R.A., F.R.I.B.A., Mr. Edward Maufe, F.R.I.B.A., Mr. J. Gloag, Hon. A.R.I.B.A., assessors. Premiums: £100, £50 and £25; six special mention awards of £10 each. Conditions from Timber Development Association, Ltd., Equitable House, 47, King Williiam-street, E.C.4	Particulars published in "Builder." Feb. 11	Sending in date. May 2
Design of cottages to be built in rural areas, for the Dept. of Health for Scotland. Messrs. Charles G. Soutar, F.R.I.B.A., F. C. Mears, A.R.S.A., F.R.I.B.A., and John Wilson, F.R.I.B.A., assessors. Premium: £75 for selected design in each of five sections. Conditions from the Secretary, Dept. of Health for Scotland, 125, George-street, Edinburgh, 2. Question by April 4. ...	Mar. 11	May 1
Crematorium, for Oxford Crematorium, Ltd. Sir Guy Dawber, A.R.A., F.S.A., P-P.R.I.B.A., assessor. Premiums: £100, £60, £40. Conditions (dep. £1 1s.) from the Secretary, Oxford Crematorium, Ltd., 55, Cornmarket-street, Oxford. Questions by April 9	Mar. 25	May 1
Council offices, Wood Green, for T.C. Messrs. C. H. James, A.R.A., F.R.I.B.A., and S. Rowland Pierce, A.R.I.B.A., assessors. Premiums: £300, £200 and £100. Conditions (dep. £2 2s.) from Town Clerk, Town Hall, Wood Green, N.22	Dec. 31 Jan. 7 Jan. 14	May 2
Designs for Duncan of Jordanstone College of Art, Perth, for Governors of Dundee Institute of Art. Premiums: £500, £250 and £150. Mr. Julian Leathart, F.R.I.B.A., assessor. Conditions (dep. £1 1s.) from Clerk, Dundee Institute of Art and Technology, Bell-street, Dundee. Questions by Jan. 19	Nov. 5 Dec. 17 Jan. 28	May 3

"CHAMBERLAIN HOUSE," MANCHESTER: FLATS FOR SINGLE WOMEN.

THE LATE LEONARD HEYWOOD, A.R.I.B.A., DIRECTOR OF HOUSING.



THE ENTRANCE FRONT.



UNIT PLAN OF FLAT IN CHAMBERLAIN HOUSE. UNIT PLAN OF FLAT IN MITCHELL GARDENS'

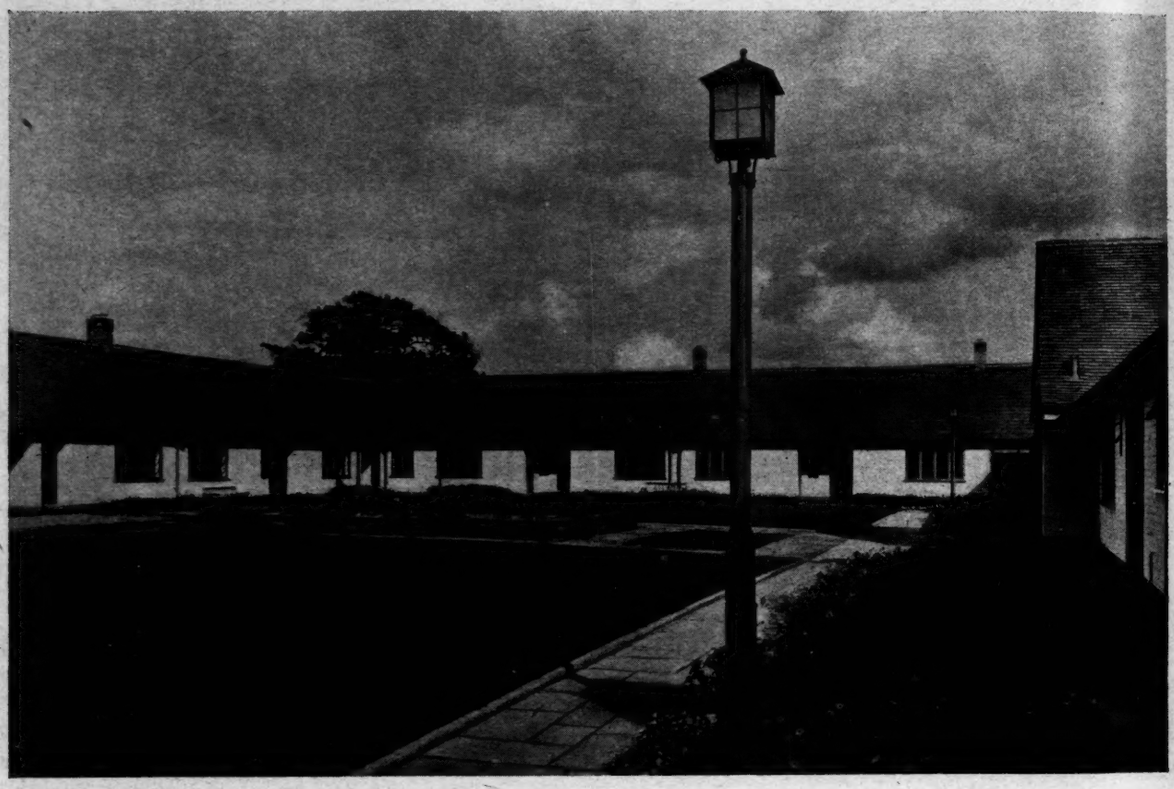
THE 12 flats are designed in a three-storeyed building with a large open grassed area in front, set well back from the main building line. Six flats have access from one common staircase. The unit of accommodation consists of a fair-sized living-room with bed-recess, scullery, separate bathroom and w.c. Eight of the flats are provided with a separate private balcony with access from the living-room. The scullery is equipped with food cupboard, gas griller and washing copper. There will be small garden plots at the rear for the use of tenants who are interested in flower culture.

The exterior finish of the building will be colour-washed walls and brown-coloured tiled roof. Rents, including rates, are 7s. 6d. per flat.

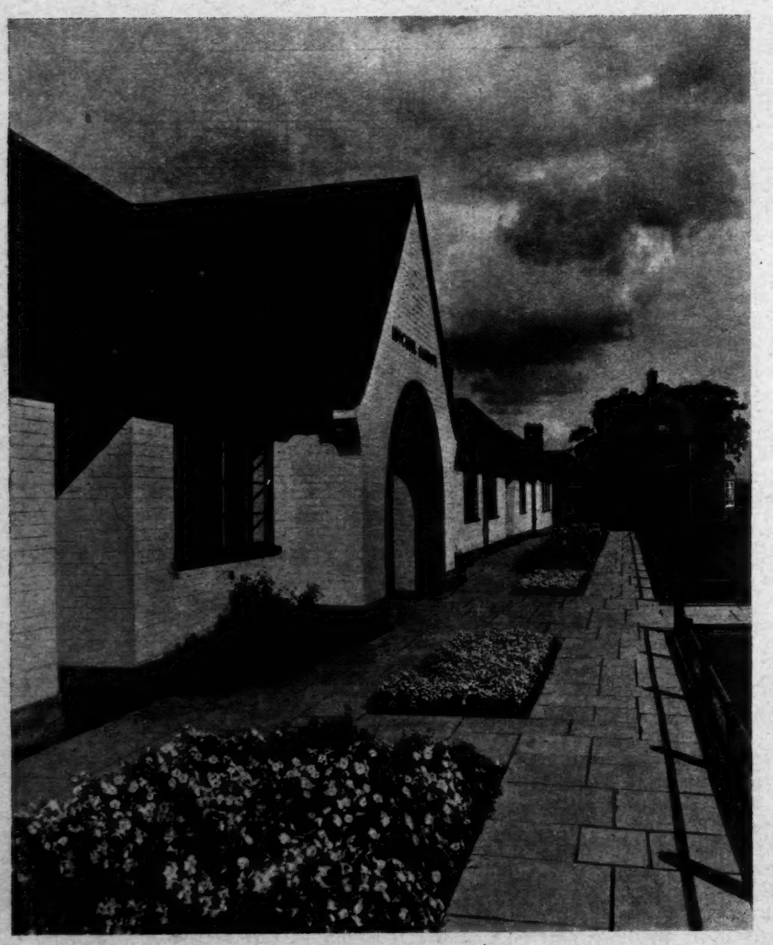
The building was erected by direct labour under the supervision of the Housing Director's Department.

"MITCHELL GARDENS," WYTHENSHAWE: DWELLINGS FOR AGED PERSONS.

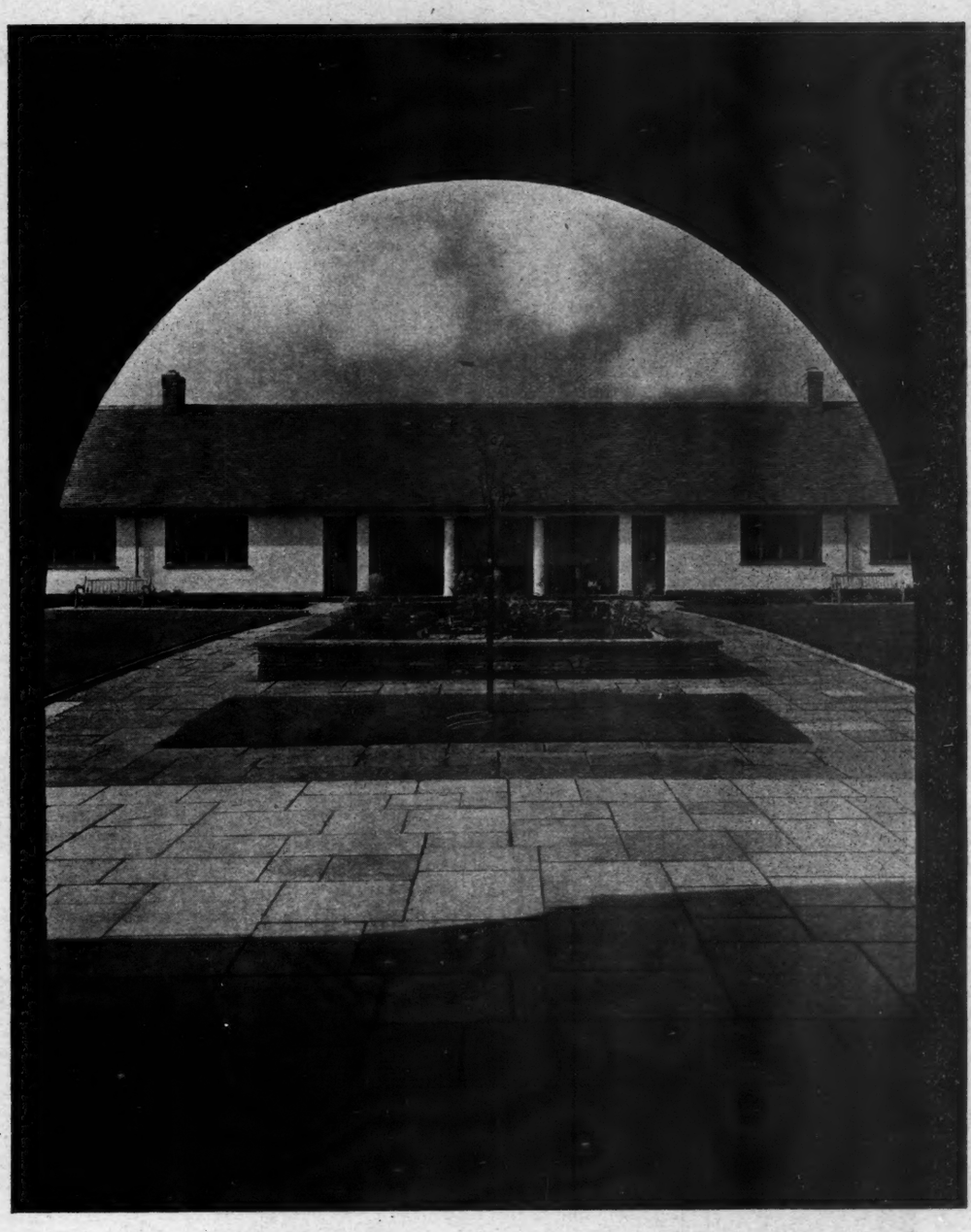
THE LATE LEONARD HEYWOOD, A.R.I.B.A., DIRECTOR OF HOUSING, MANCHESTER.



VIEW ACROSS THE CENTRAL COURT.



Left: THE ENTRANCE FRONT.



VIEW THROUGH ENTRANCE ARCH ACROSS THE COURT.

"MITCHELL GARDENS," WYTHENSHAWE: DWELLINGS FOR AGED PERSONS

The late LEONARD HEYWOOD, A.R.I.B.A., DIRECTOR OF HOUSING, MANCHESTER.

"MITCHELL GARDENS," WYTHENSHAWE: DWELLINGS FOR AGED PERSONS.

THE LATE
LEONARD HEYWOOD, A.R.I.B.A.,
DIRECTOR OF HOUSING,
MANCHESTER.

An interesting experiment in new types of accommodation is being tried on one of the housing estates at Wythenshawe. Both schemes here shown have been designed at the suggestion of Sir Miles Mitchell, late Chairman of the Manchester Housing Committee.

"Mitchell Gardens," giving accommodation for aged persons, contains 24 dwellings, and is a one-storey building, built round a central court. The court is grassed, and contains a simple lily pond with planted borders and small fountain. At one end of the court a covered loggia with southerly aspect has been planned. On either side of the main entrance to the court are planned two rooms, one for men's common room, and the other for the women.

The layout provides for a number of garden plots for those interested in gardening, sited behind the main block. Drying space is provided at the sides of the dwellings.

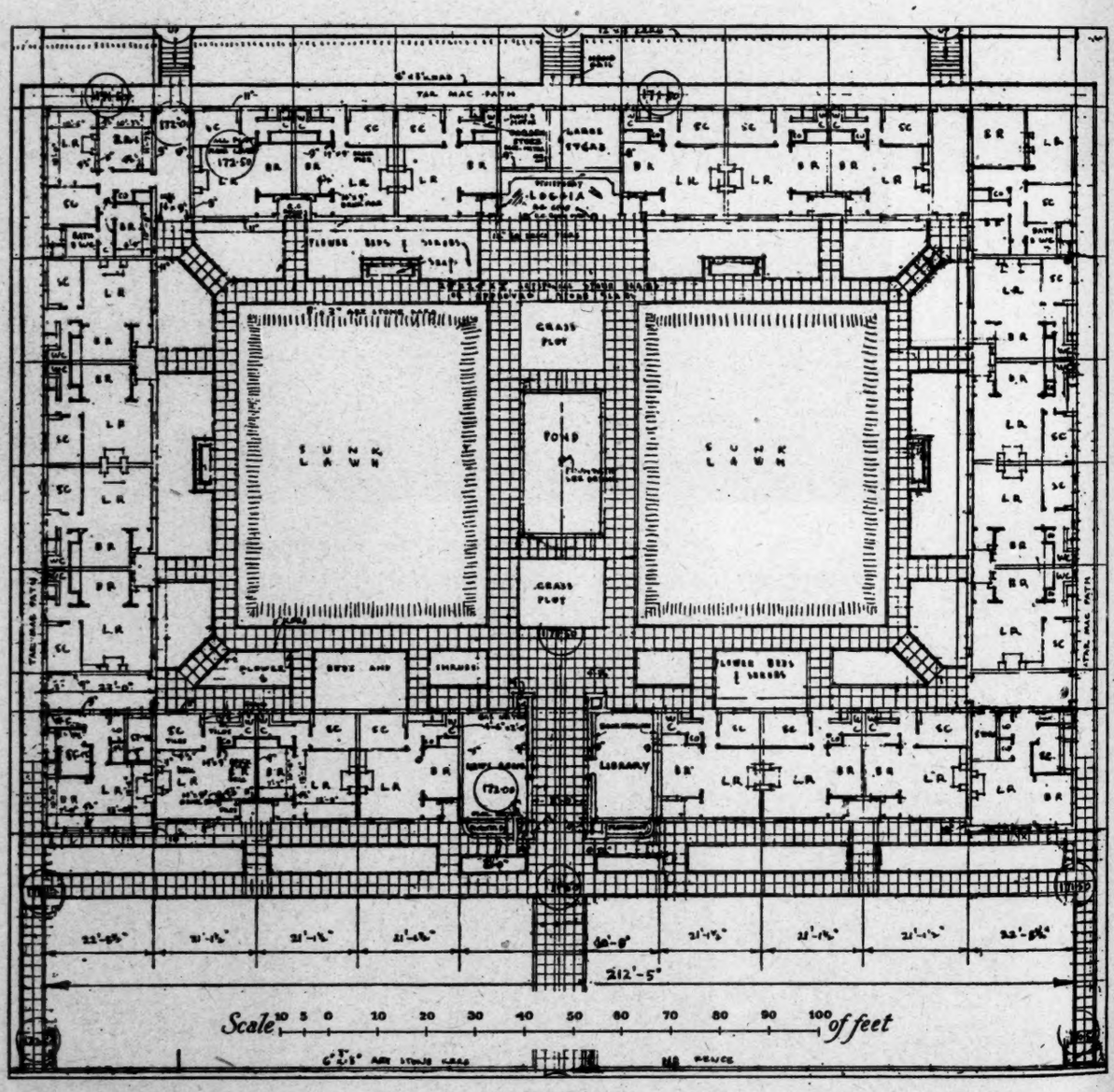
The unit of accommodation is of the simplest, consisting of a good living-room with bed recess, which can be screened off by a curtain. Access to the living-room is from a covered porch on the court side of the living-room. A typical unit plan is on page 783.

The scullery is equipped with food cupboard, washing copper, and gas griller, together with bath, which will have a table top cover. There is a porch at the rear of each unit giving covered approach to the dust chute.

The exterior finish will be in colourwashed walls with brown-coloured tiled roof.

The allocation of rents (including rates) is as follows: Bed recess type (of which there are 22) 7s.; A2 type (of which there are 2) 9s. 4d.

The buildings were erected by direct labour under the supervision of the Housing Director's Department.

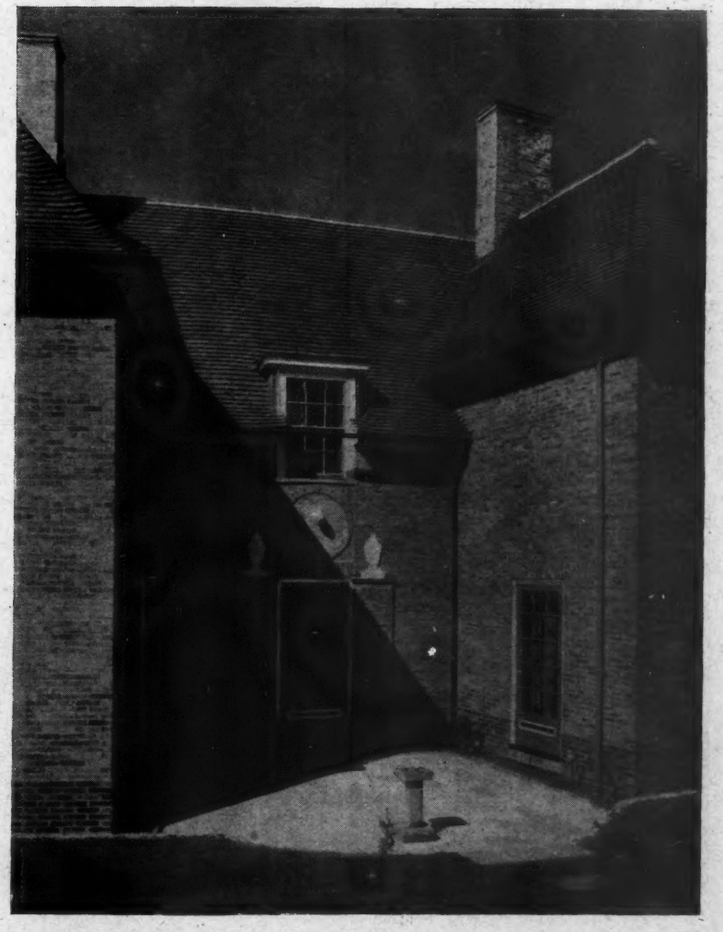


THE PLAN.

A HOUSE AT MANOR WAY, SOUTH CROYDON, SURREY.

MR. EDWARD BANKS, A.I.A.A., ARCHITECT.

THE ENTRANCE FRONT



VIEW FROM THE GARDEN, SHOWING BACK ENTRANCE.

A HOUSE AT MANOR WAY, SOUTH CROYDON, SURREY.

MR. EDWARD BANKS, A.I.A.A., ARCHITECT.

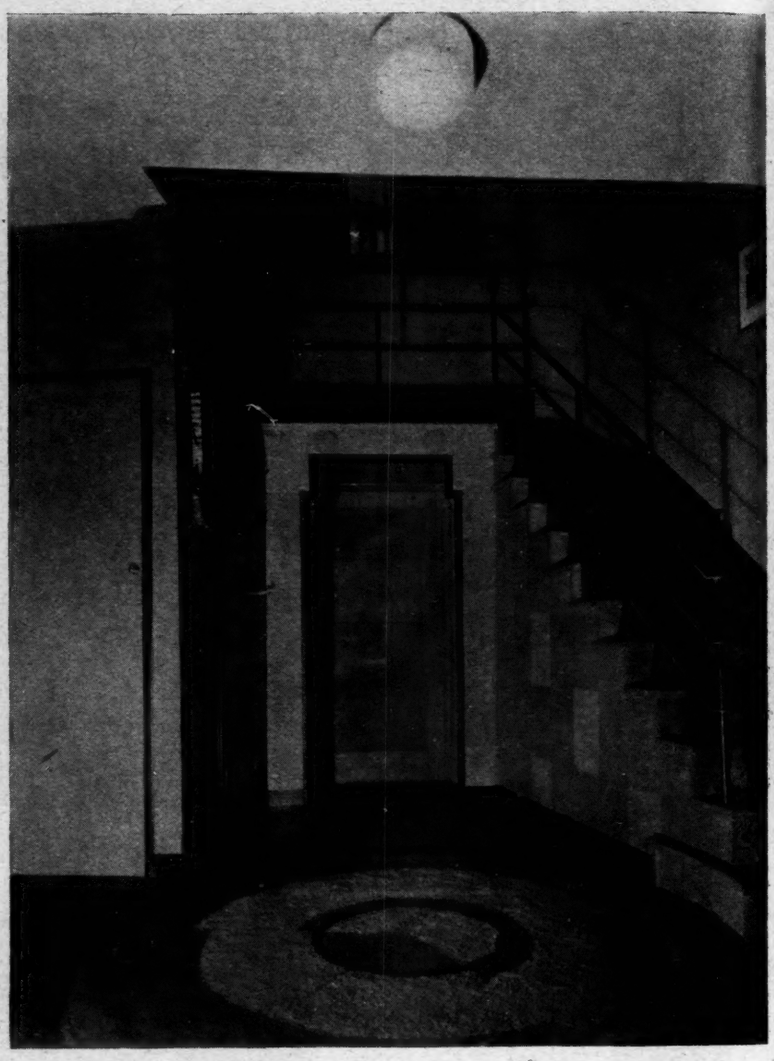
THIS house has recently been built on the Croham Manor Estate at South Croydon, Surrey, for Captain H. Doyle. The "butterfly" plan was arrived at by a careful study of the site, aspect and accommodation required. The house stands on the axial line of a forked road plot, with the main front facing the intersection. The sides of the house were placed parallel to the diverging roads, and a concave front became the natural resultant.

For the elevations the architect has relied on an effect of 2-in. yellow Kent stock bricks, now weathering to a golden shade, on a black brick plinth, and with a cherry-red hand-made sand-faced plain tile roof, toning with exposure to a chocolate. The appendages are covered with wrought-elm boards weathering natural grey.

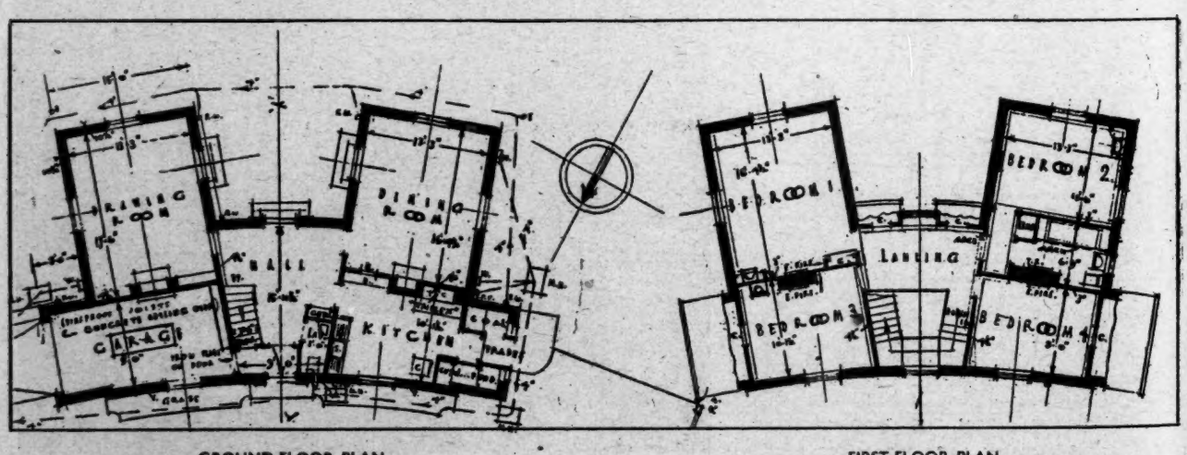
More than usual attention was paid to the interiors, with the special detailing of main rooms, fireplaces and colour schemes. The living-room is panelled full height with flush butt-jointed birchwood of large rectangular panels, with grain direction laid in a chequer-board manner, and stained powder blue and wax polished. The dining-room is carried out in a similar way, but with pinewood of natural waxed finish, and with ebonised cover beads over the horizontal joints. The staircase is in natural waxed pine, with a wrought-iron balustrade, painted emerald green, and the circular rug shown in the hall was also designed by the architect.

The first floor has four double bedrooms, the largest of which has a wardrobe fitment, and a wash-basin built in a shallow cupboard. The cost of the house, including paths and fencing, was approximately £1,500.

The building contractors were Messrs. R. D. Taylor, Ltd., Brighton-road, Purley; and sub-contractors were: Facing bricks (2-in. yellow Kent stocks), the Cement Marketing Co., Ltd.; building bricks, the London Brick Co.; fireplaces, special and standard, W. N. Froy and Sons, Ltd.; roof tiles, hand-made, sand-faced reds, S. and E. Collier, Ltd.; roof tiling, Roberts, Adlard and Co.; wall tiling, 6 in. by 6 in. cream glazed, H. Nutman, Ltd.; fireproof garage to hall door, "Kleenflush" all-steel, John Booth and Sons, Ltd.; plywood panelling, Venesta, Ltd.; panelling finishes (pine natural polished and birch stained pale blue and polished), Ronuk; wrought-ironwork (stair balustrade and gates), Wenham and Fowler; metal kitchen sink, Benham and Sons, Ltd.; "Triplex" kitchen grate, Pryke and Palmer, Ltd.; electrical installation, Buxton and Longley, Ltd.; sanitary fittings, Shanks and Co., Ltd.; and door furniture, James Gibbons, Ltd.



THE HALL.



GROUND-FLOOR PLAN. FIRST-FLOOR PLAN.

NEW NURSES' HOME, ST. FAITH'S HOSPITAL, BRENTWOOD.

MR. E. P. WHEELER, F.R.I.B.A., ARCHITECT TO THE LONDON COUNTY COUNCIL.

THE SOUTH FRONT, FROM THE SOUTH-EAST.

THE buildings at St. Faith's Hospital, which stand in about 63 acres of ground, were erected in 1854 for the Shoreditch Industrial Schools, and were enlarged in 1869 and again in 1879. The premises were subsequently acquired by the late Hackney Board of Guardians and used for the accommodation of epileptic patients.

Since its transfer to the London County Council on April 1, 1930, a number of major works of improvement, including the installation of cold storage equipment, the formation of a first-aid room and the construction of a covered way from the main hospital block to the patients' dining-hall, have been carried out, together with numerous minor additions and improvements to the buildings and plant. There are 427 beds in the hospital.

In July, 1935, the London County Council, in view of the inadequacy of the accommodation provided for nursing and domestic staff at the hospital, decided to build this new home. It is a three-storey building situated on the west side of the main hospital block, and has been planned to give the maximum sunshine in the bedrooms and sitting-rooms. There are 72 bedrooms, common rooms for nurses, library, visitors' room, staff kitchen, laundry, linen rooms and bathroom accommodation, including shampoo rooms. In addition two large rooms in the main hospital block have been converted into dining-rooms for the nursing staff, and are connected to the home by a covered way. The total cost of the new home, including furniture and equipment, is about £18,915.

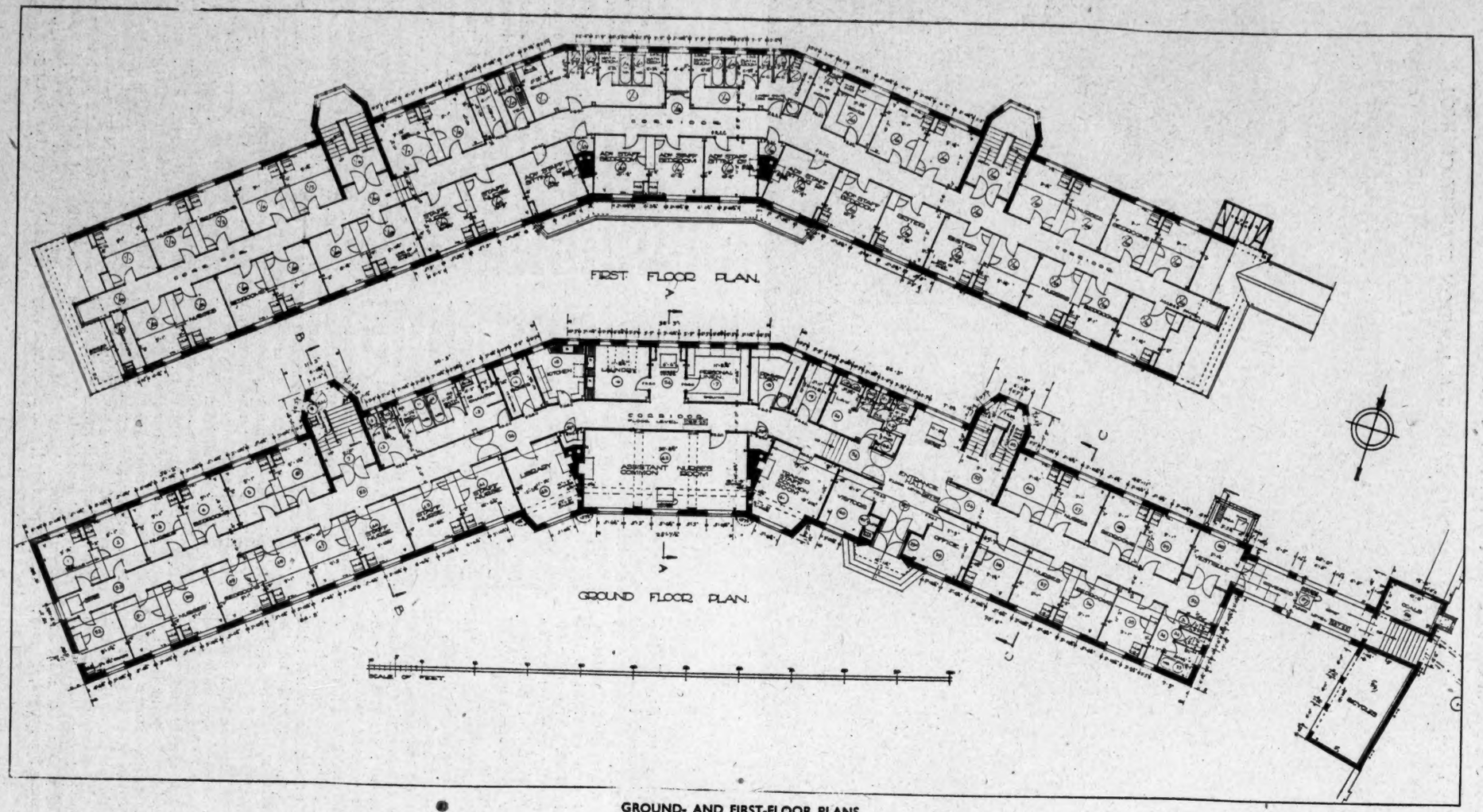
The accommodation is planned as follows: — BEDROOM ACCOMMODATION: Ground floor, nurses, 20 bedrooms; staff nurses, 3 bedrooms. First floor, nurses, 23 bedrooms; staff nurses, 2 bedrooms; sisters, 2 bedrooms; administrative staff, 3 bedrooms (with sitting-rooms). Second floor, maids, 19 bedrooms. This gives a total of 72 bedrooms.

NON-SLEEPING ACCOMMODATION. — On the ground floor is planned a centrally placed common room 29 ft. by 13 ft. 6 in. for nurses, with a library and staff common room on either side respectively. A visitors' room and an office are planned on either side of the entrance. A staff kitchen, laundry, common and personal linen rooms are also included. Appropriate lavatory and bathroom accommodation is provided on each floor, including shampoo rooms, and a personal laundry for maids on the second floor. A staircase for each wing is provided, and a covered way connects with the main hospital block. A coal store and a store for 20 bicycles are conveniently arranged adjacent to the covered way.

In addition, adaptation works in the main hospital block have been carried out as follows:—Conversion of the present common room on the ground floor into a nurses' dining-room; adaptation of kitchen as a sisters' dining-room; and reconditioning of existing staff room as a dining-room for maids.

The building works have been carried out under the direction of the Architect to the Council (Mr. E. P. Wheeler, F.R.I.B.A.) by A. E. Symes, Ltd., of Carpenters-road, London, E., the contract price being £18,559. The engineering services have been carried out under the direction of the Chief Engineer to the Council (Mr. T. Peirson Frank, M.Inst.C.E., F.S.I.).

Sub-contractors were: Matthew T. Shaw and Co., steelwork; The Excel Asphalte Co., Ltd., asphalt; Dent and Hellyer, Ltd., sanitary fittings; Crittall Manufacturing Co., Ltd., steel casements; The Acme Flooring and Paving Co. (1904), Ltd., flooring; Martin Van Straaten and Co., wall tiling and terrazzo; Nicholls and Clarke, Ltd., paint; and Field and Palmer, Ltd., tar macadam and tar paving.



GROUND- AND FIRST-FLOOR PLANS.

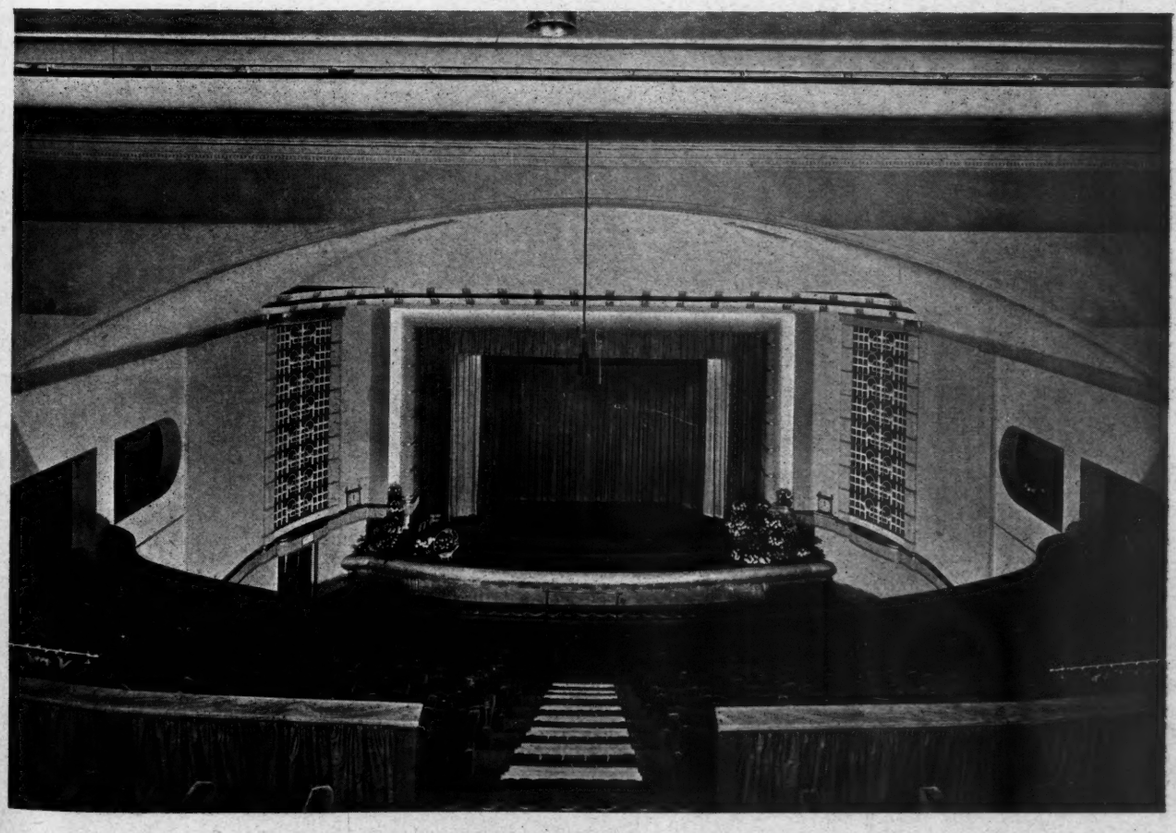
NEW NURSES' HOME, ST. FAITH'S HOSPITAL, BRENTWOOD.

MR. E. P. WHEELER, F.R.I.B.A., ARCHITECT TO THE LONDON COUNTY COUNCIL.

A CINEMA RECONSTRUCTION: THE "SAVOY," HULL.

MESSRS. BLACKMORE AND SYKES, ARCHITECTS.

Right: THE EXTERIOR, AS REMODELLED.



THE AUDITORIUM, AS REMODELLED: VIEW FROM CIRCLE.

A CINEMA RECONSTRUCTION: THE "SAVOY," HULL.

THIS cinema was reopened at the beginning of November last after having been closed for two weeks only, although work on the new construction had been in progress outside the auditorium walls and in screened sections since the end of August. As will be seen, the auditorium has been entirely transformed. The new stage setting has been made possible by taking in an adjoining house at the rear of the theatre, which has enabled advanced lighting effects to be produced and still further to provide for the ease and comfort of patrons.

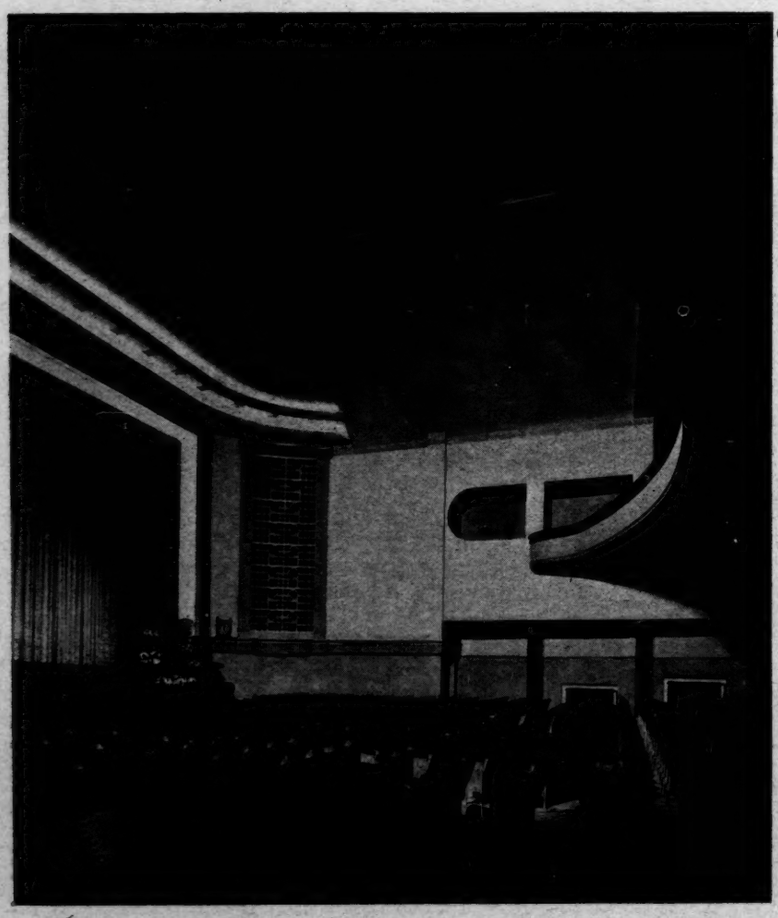
A wide proscenium and stepped stage formation has been utilised. The colour scheme is blue, beige and gold, and has been carried out in harmonious tones throughout. The seating is new and comfortable, upholstered in a specially manufactured tone of blue velvet. The same type of seat has been adopted for the whole of the auditorium. Carpets have been specially designed to complete the whole harmony of colour and comfort.

The entrance foyer has been remodelled, with the whole of the ticket issuing now arranged in one new marble and glass ticket office. The manager's office has been constructed adjacent to the entrance, where he will be available for consultations with patrons. A large canopy has been constructed across the whole of the front of the building, 12 ft. in width, which will give protection to patrons in wet weather. Intensive lighting adds to the appearance of the exterior of the building.

There is a total of 1,401 seats in the theatre, being 516 in the balcony and 885 on the ground floor. Western Electric Mirrophone sound apparatus has been installed. A central vacuum cleaning plant has been provided. Equipment generally is electric, including the secondary safety lighting.

The building operations have been carried out by Messrs. J. Emmerson (Hull), Ltd. Following were subcontractors: City Electrical Eng. Co., Hull, electric installation and secondary lighting; General Electrical Eng. Co., Hull, electric fittings; Rosser and Russell, Ltd., Leeds, heating; Trinity Chair Works, Scarborough, seating; Garton and Thorne, canopy; Western Electric, sound equipment; Lightowler and Sons, Hull, painting and decorating; Hammonds, Ltd., Hull, furnishing; W. J. Wilson and Co., Mansfield, fibrous plaster; A. B. Holmes, Hull, piling; Northern Asphalt Co., Hull, waterproofing work; O. Toffolo and Son, Hull, marble terrazzo steps; J. T. Scotney, Ltd., Hull, steelwork (general); Dawnays, Ltd., Norwich, steelwork; Rapid Precast Floors, Hull, fireproof floors and roofs; Sturtevant Eng. Co., Ltd., vacuum cleaning plant; Hall Mfg. Co., Ltd., curtain gear; Limmer and Lake Trinidad Asphalt Co., Hull, asphalt; J. Hardgrave, York, tiling; Rom River Co., Ltd., metal work for plaster; J. and H. Patteson, Ltd., Manchester, marble pay-box; and Middleton Fireclay Co., Leeds, faience tiling.

THE AUDITORIUM, BEFORE REMODELLING.



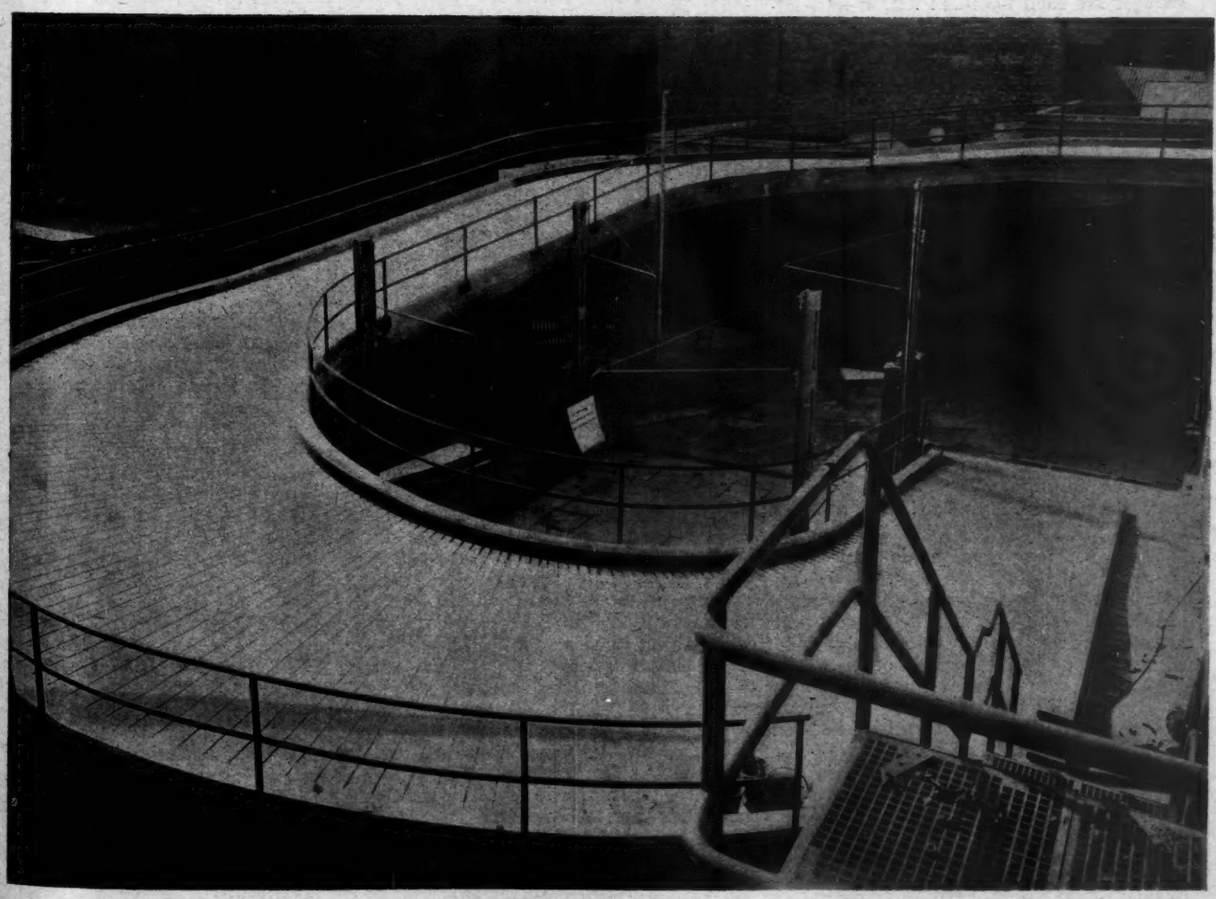
THE AUDITORIUM AT STALLS LEVEL, AFTER REMODELLING

MESSRS. BLACKMORE AND SYKES, ARCHITECTS.

CENTRAL GARAGE AND WORKSHOPS, MEDLAND STREET, FOR STEPNEY B.C.

MR. B. J. BELSHER, F.R.I.B.A., BOROUGH ENGINEER AND SURVEYOR.

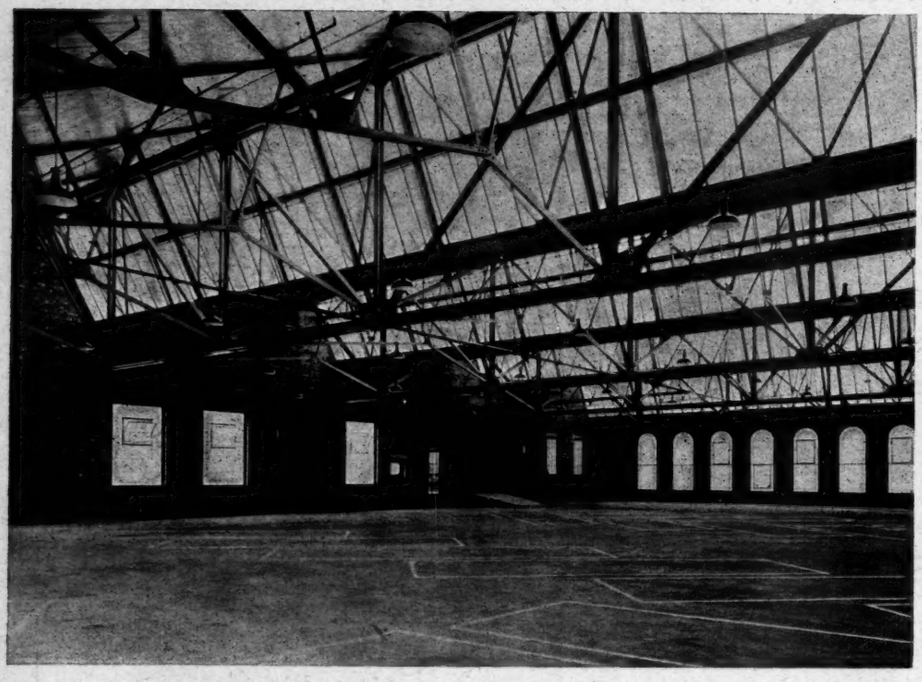
THE MEDLAND STREET FRONTAGE.



VIEW SHOWING RAMP TO UPPER FLOOR.

CENTRAL GARAGE AND WORKSHOPS, MEDLAND STREET, FOR STEPNEY B.C.

MR. B. J. BELSHER, F.R.I.B.A., BOROUGH ENGINEER AND SURVEYOR.



THE UPPER FLOOR

THE building comprises a two-storey garage, mechanical and machine workshops, battery-charging room, painting shop, blacksmiths' shop, stores, mess-room and kitchen, clothes-drying room, lavatories, shower baths, offices and lock-up garage for private car, and is designed for the garage and repair of 80 motor vehicles.

The ground and first floor garages are each 155 ft. in length by an average width of 125 ft., with a minimum clearance height of 14 ft., and the means of access for vehicles from ground to first floor level is by way of a curved reinforced concrete ramp or inclined roadway, surfaced with 1½ in. thickness of granolithic paving with a deeply ribbed finish. The maximum gradient is 1 in 7. The building is a steel-framed structure with brick wall panelling, plain concrete ground floor and reinforced concrete upper floors.

The foundations to stanchions are mainly of reinforced concrete, but as the eastern portion of the building is erected over a filled-in barge berth, it was found necessary to construct certain foundation bases on reinforced concrete piles, 30 ft. long and 14 in. by 14 in. in section.

The first-floor garage is supported by plate girders 3 ft. deep on steel stanchions, and the north light roof is supported by steel lattice girders 16 ft. 2 in. deep, spanning the whole width of the first floor garage, thus providing a clear and uninterrupted floor area. The longest lattice girder is 132 ft. in length. The garage roof is covered with corrugated asbestos sheeting, lined on the underside with matchboarding, and the north light roof glazing provides an abundance of natural light. Other roofs are of reinforced hollow tile construction covered with asphalt. The windows are steel sashes and the joinery is generally of teak, as precaution against fire.

The mechanical workshop is 111 ft. long by 25 ft. wide and 16 ft. high, with four large entrances direct off the ground floor garage and one to the open yard. There is accommodation for four vehicles, and the equipment includes two 7-ton capacity hydraulic lifts, large size degreasing tank, 3-ton overhead travelling and traversing crane, and a 60-ton screw press.

The machine shop is 20 ft. by 17 ft. 6 in., and contains a 8½ in. by 9 ft. sliding, surfacing and screw cutting lathe, one 24-in. column drilling machine, belt-driven hacksaw and 10-in. grinder.

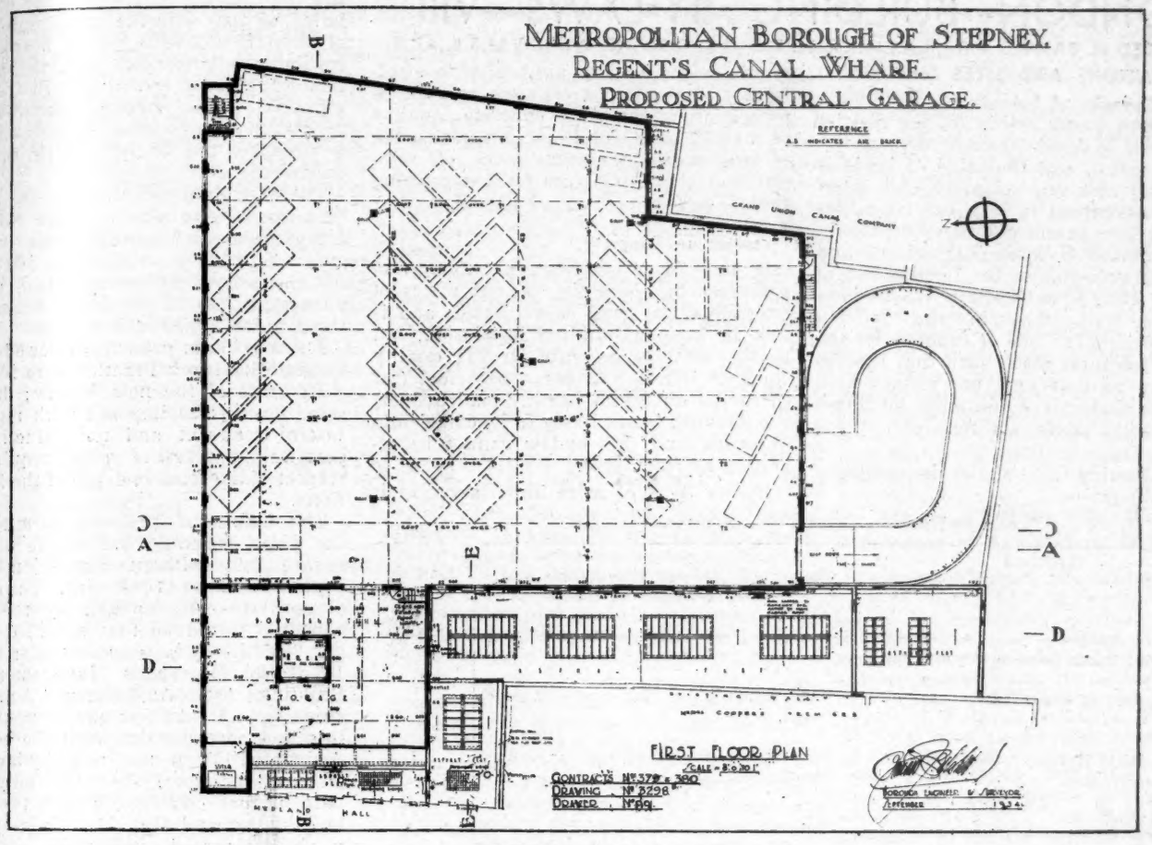
Adjacent to the machine shop is a blacksmiths' shop with a smith's hearth and anvil. The painting shop is equipped with a ventilating system, positive extraction of air being by means of a volume fan. The air is exhausted at floor level by means of a vertical duct and replaced by fresh air drawn over hot-water radiators enclosed in ducts to the inlets to the room.

Two underground petrol storage pits, of concrete floor, walls and roof, are constructed beneath the open yard, and each contains a 1,000-gallon tank connected to three Beck electric petrol pumps.

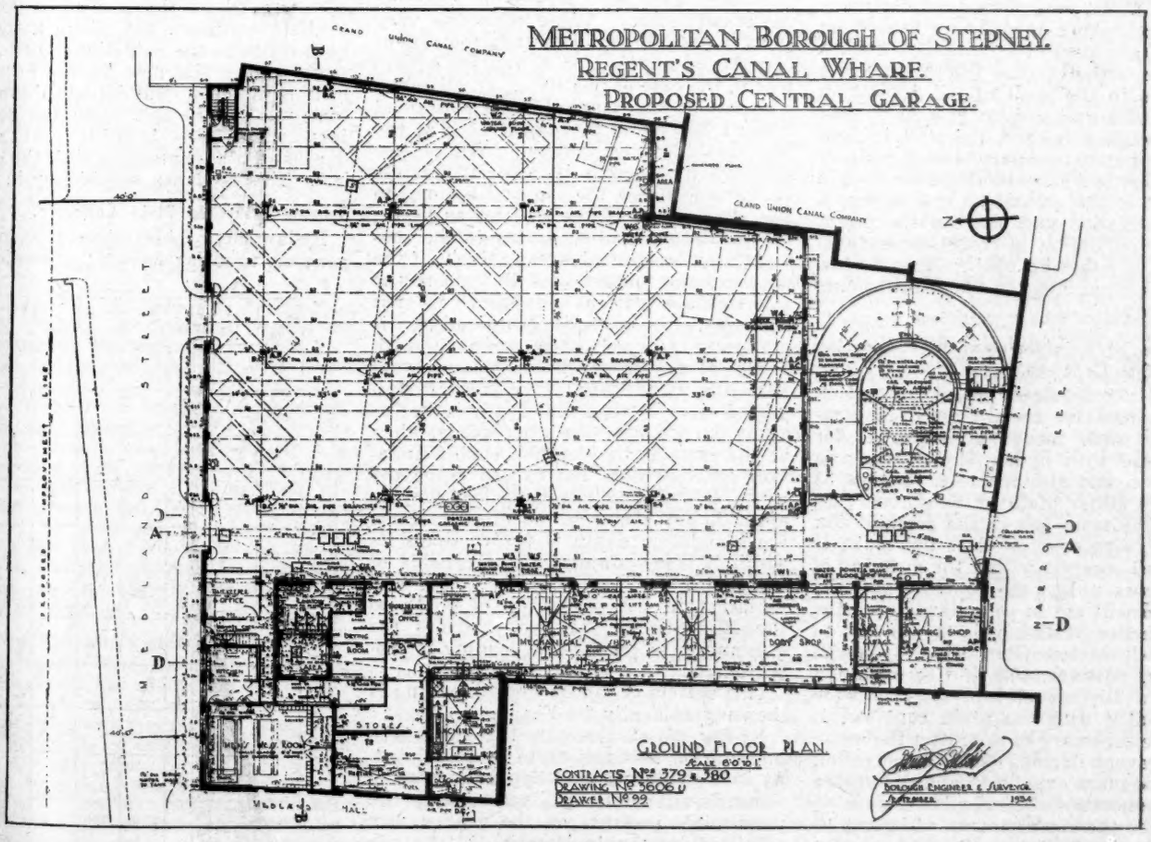
Space in the open yard within the surrounding ramp is reserved for car-washing purposes, and high-pressure car washers with four swing arms and nozzles are provided. As a necessary protection against frost, these washers are housed in a shed under the ramp and heated by a small electric heater with thermostatic control.

The men's messroom is 27 ft. 6 in. by 21 ft., with a lofty ceiling, the interior wall surfacing being ivory-white glazed brick dado 8 ft. 6 in. in height, a distempered plastered filling above and granolithic flooring. 100 metal lockers are provided for the men's use. The kitchen is of similar treatment to that of the messroom, and is fitted with two large, deep, white glazed sinks, hot and cold water, cupboard, table, plate rack and electric cooker. The clothes drying-room is heated by radiators and ventilated by an electric fan. The chamber is also fitted with hat and coat rails and hangers to provide the facilities for drying wet clothing. The offices and workshops are heated by means of a low-pressure thermostatically controlled hot-water circulating system of pipes, radiators, unit heaters and an electrically-driven pump for accelerating or boosting when required, and a hot water domestic supply system is also installed.

The general contractors were Messrs. Rigg and Remington, Ltd., the steel framework being by Messrs. Power's and Deane Ransome's, Ltd. Sub-contractors were: Edgar Fitton and Co., Ltd., hot water heating and domestic supply; L. and G. Tate and Co., Ltd., electrical installation; Mather and Platt, Ltd., automatic fire-resisting shutter; Luxfer, Ltd., roof glazing; Brown Bros., Ltd., Beck and Co., Ltd., Tecalemit, Ltd., and James W. Carr and Co., Ltd., garage equipment; The Vaughan Crane Co., Ltd., travelling crane; Westinghouse Brake and Signal Co., Ltd., battery-charging set; Buck and Hickman, Ltd., Frank Wigglesworth and Co., Ltd., and Alldays and Onions, Ltd., machinery; Hoffmann Sprinkler Co., Ltd., sprinklers; T. W. Palmer and Co., Ltd., and J. Westwood and Co., fittings; and Carter and Aynsley, Ltd., ironmongery.



FIRST-FLOOR PLAN



GROUND-FLOOR PLAN.

CENTRAL GARAGE AND WORKSHOPS, MEDLAND STREET, FOR STEPNEY B.C.

MR. B. J. BELSHER, F.R.I.B.A., BOROUGH ENGINEER AND SURVEYOR.

LONDON BUILDING BY-LAWS—VIII

By ALFRED H. BARNES, F.R.I.B.A., M.I.Struct.E., and C. ROLAND WOODS, M.B.E., LL.B.

FOUNDATIONS AND SITES (*continued*).

Bearing Capacity of Subsoils.

ALTHOUGH under by-law 30, the district surveyor is to decide the bearing capacity of the subsoil, and the table of loads is given only as a general guide, it is interesting to compare it with similar tables included as maxima permissible loads in the Reinforced Concrete Regulations and the Third Schedule to the London Building Act, 1930. The table in the by-laws coincides with that in the London County Council's Code of Practice for the use of Structural Steel, save that the by-laws stop at four tons per square foot, while the Code gives one more loading—"Hard solid chalk, six tons per square foot."

The following table shows the comparative loadings:—

TABLE OF BEARING CAPACITY OF SUB-SOILS.

New By-Laws and Code of Practice.	Reinforced Concrete Regulations and Third Schedule to L.B.A.	Load in tons per sq. ft.
Alluvial soil, made ground very wet sand	——	½
Soft clay, wet or loose sand	Natural bed of soft clay or wet or loose sand.	1
Ordinary fairly dry clay, fairly dry fine sand, sandy clay.	Natural bed of ordinary clay or confined sand.	2
Firm, dry clay	——	3
Compact sand or gravel, London blue or similar hard compact clay.	Natural bed of compact gravel, London blue clay or chalk.	4

Pressure from Earth.

By-law 31 requires provision to be made for the resistance to pressure caused by earth on any part of a building. Such a contingency would arise where there is a difference in the level of the ground on one side of a wall and the ground or floor on the other side, and the wall in consequence functions as a retaining wall, or where there is a considerable difference in the level of the ground on one side of a deep foundation and that on the other, and the foundation in consequence functions as a retaining wall. This by-law serves as a reminder of the requirements of by-law 2.

Protection of Reinforcement in Foundation and Site Concrete.

By-law 32 requires proper protection from damage for metal "used in combination with concrete required for compliance with by-law 33" relating to foundation and site concrete. By-law 33 envisages either plain or reinforced concrete. The mere fact of the combination of metal with concrete does not make it reinforced concrete within the meaning of the by-laws unless the concrete and the reinforcement are in compliance with the requirements of the by-laws relating to reinforced concrete (Part VI). By-law 33 provides, however, that if (for example) a certain amount of iron or steel were incorporated with the plain concrete, it would be necessary so to protect the metal as to prevent damage (such as corrosion and consequent expansion and disruption of the concrete). This by-law serves to emphasise the requirements of by-law 95 in its relation to foundations when reinforced concrete is used.

NOTE.—While the requirements of by-laws 32 and 33 specifically relate to the foundations of walls and piers, by-laws 65 and 94, by reference back, make the same requirements equally applicable to steelwork and reinforced concrete as regards protection of metal in concrete, quality of concrete, angle of dispersion, resistance to tension and the compliance of reinforced concrete with the by-laws relating thereto.

Pressures on Concrete.

By-law 34 stipulates the maximum pressures to which the various mixes of concrete filling may be subjected, and is new in London building legislation, but as the limit of pressure on VII quality concrete is five tons per square foot (far in excess of, say, a heavily loaded floor) the strength is not likely to be called into question, and this by-law cannot be regarded as restrictive.

By-law 35 is of more importance, as it limits the pressure permitted on the various grades of load-bearing concrete in foundations. These pressures vary from 15 tons per square foot in the case of concrete of quality V to 40 tons per square foot in the case of quality I. In all cases, foundations are required to be restrained against horizontal movement both at the top and at the bottom. Where the foundation concrete is also adequately restrained *between* the top and bottom, to the satisfaction of the district surveyor, the maximum loading proper to the concrete may be applied irrespectively of the depth of the foundation. But where the intermediate lateral restraint is not adequate, the permissible loading is gradually reduced in accordance with Table VI as the depth increases beyond twice the breadth, until the pressure permitted is zero when the depth is twelve times the breadth. In other words, when at one extreme the depth of such foundation concrete does not exceed twice the width, the whole of the major load may be applied, but where at the other extreme the foundation depth is twelve times its width it is not deemed to be capable of supporting any load whatever. For any variation in the proportion of depth to breadth between the two extremes the diminution in permissible loading is proportionate.

This system of diminution of loading is shown graphically in Fig. 1.

By-law 35 at the outset requires the pressure on foundations to be calculated. At first sight this may appear a troublesome requirement, but inasmuch as the permissible pressure on the poorest mix admitted by the by-laws is 15 tons per square foot, which exceeds the pressures allocated to brickwork (other than that comprising hard engineering bricks in 1 : 3 cement mortar), it is to be presumed that the brickwork would, in general practice, be crushed long before the concrete failed, so that with the exception of cases of deep foundations, or of heavy loads involving engineering work, the calculation would be a formality. In these exceptional cases, calculations would be necessary in any event. The requirement is therefore not likely to constitute any inconvenience

The only data contained in the old requirements with which by-law No. 35 is comparable are those contained in paragraph 48 of the Council's Code of Practice for the use of Structural Steel, and in paragraph (24) of the Third Schedule to the London Building Act, 1930.

The maximum pressures allowed by the Code of Steelwork Practice were identical with those of the new by-law; but no requirement was imposed with regard to lateral restraint and no deductions in permissible pressure were required in respect of the relative depth of the foundations.

The maximum pressure permitted by the Third Schedule was twelve tons per square foot without restriction as to depth or manner of restraint. The quality of concrete contemplated by the Third Schedule would be that specified in by-law 2 of the by-laws made under Section 16 of the Metropolis Management and Building Acts Amendment Act, 1878, namely, 1 : 8. As was shown previously, this mix corresponded with the concrete designated V in the new by-laws. It follows, therefore, that the only comparison that can be drawn between the new by-law and the old is in respect of newly designated quality V.

The maximum permissible pressure was 12 tons per square foot under the old by-law, and is 15 tons under the new. The new by-law holds to the higher stress in all cases where there is adequate intermediate restraint, but where there is no such restraint the reduction of permissible stress under the new by-law brings the loading in deep foundations down to 12 tons per square foot when the depth is four times the breadth. At greater depths, the advantage is with the old by-law. This is shown graphically in Fig. 1.

Tensile Stress in Plain Concrete.

By-law 36 forbids reliance upon plain concrete to resist tension "otherwise than

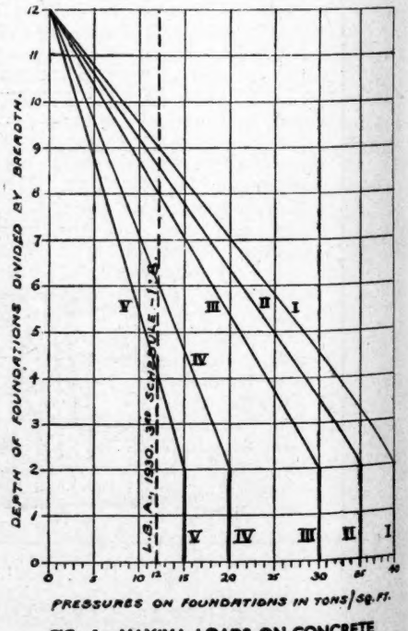


FIG. 1.—MAXIMA LOADS ON CONCRETE FOUNDATIONS IN RELATION TO PROPORTIONAL DEPTH.

in accordance with the requirements of by-law 33." This corresponds with the requirements of Regulation 42 (a) of the Reinforced Concrete Regulations. The exception with regard to by-law 33 is necessary in view of the fact that in that by-law reliance is placed in plain concrete to resist the tensile stresses set up by the inverted cantilever action of the projecting foundation.

Precautions on Site to Ensure Stability.

By-law 38 requires precautions to be taken to ensure the stability of a building when "preparing" for building or the conversion of a building. There was no previous requirement of this nature in London except in so far as the district surveyor would deal with such a matter under Part X of the London Building Act, 1930, dealing with "dangerous structures." It is easily conceivable that by-law 38 will fulfil a very useful purpose, particularly in cases of conversion, where (for example) an excavation is made in close proximity to an existing building. The effect of the by-law would be to require adequate sheeting, strutting and shoring in the interests of safety. Presumably the by-law would also apply to roadways or the like in proximity to the work.

It is not inappropriate at this point to draw attention to by-law No. 156, which says, "All work affected by any of the provisions of these by-laws shall be carried out to the satisfaction of the district surveyor in a proper and workmanlike manner."

SOCIETIES AND INSTITUTIONS

R.I.B.A.

The Intermediate Examination.

Following are the dates on which the forthcoming R.I.B.A. Intermediate Examination will be held: May 20, 21, 23, 24, and 26. (Last day for receiving applications, April 20.)

Prizes and Studentships, 1938-1939.

The R.I.B.A. Prizes and Studentships pamphlet for 1938-39 contains full information upon the various prizes and studentships, together with, where applicable, the detailed programmes for the competitions. Copies of the pamphlet are obtainable at the R.I.B.A., price 1s., exclusive of postage.

DEVON AND CORNWALL ARCHITECTURAL SOCIETY.

Annual Meeting.

The annual meeting of this Society was held on Saturday, April 2, at the Duke of Cornwall Hotel, Plymouth. The chair was taken by the President, Mr. Stanley Pool, A.R.I.B.A., others present being:—

The Plymouth Branch: Messrs. E. G Catchpole, C. Cheverton, J. T. Darch, H. T. Dyer, W. Halkerston, A. C. A. Norman, A. C. Ray, E .U. Channon, S. J. Crispen, W. J. H. Dungey, F. E. Pearce Edwards, C. Lloyd Jones, A. S. Parker, B. Priestley Shires, W. A. Vercoe, R. F. Wheatly, F. W. Julian, A. F. W. Toms, J. H. Serpell, and Miss H. M. Cole.

The Exeter Branch: Messrs. John Bennett, J. C. C. Bruce, J. Challice, L. A. J. Heywood, H. M. Drury, J. Pickering, W. J. M. Thomasson, R. J. Lane, G. S. Bridgman, R. M. Challice, A. Cunes, H. H. Hounsell, O. Parker, A. H. Ough, W. E Wolff.

The annual report and balance-sheet having been adopted,

The President, on behalf of the members of the Society, presented to Mr. J. Challice a gold watch as a token of their esteem and appreciation of his services on his retirement after 16 years' service as hon. secretary to the Society. During Mr. Challice's long period of service, he said, the membership of the Society has risen from 91 to 231, and this increase, and the present live state of the Society, were in no small measure due to Mr. Challice's sustained efforts.

Retiring President's Address.

Mr. Stanley Pool, the retiring President, then delivered his address, in the course of which he said the Society was formed nearly 50 years ago, and they owed a great deal to the older members (and happily some of them were still with them) for the part they had played in making the Society what it was to-day—an active organisation keenly interested in the advancement of the art of architecture. It was very gratifying to know that the Society continued to grow, and that they were able to report the membership had now reached a total of 231.

"Several Past-Presidents," continued the speaker, "have stated that they would like to see a larger number of members from Cornwall. That wish has been fulfilled—to-day architects in Cornwall are taking a more active interest, and I think I can say that the increase in our membership is due, in part, to the Cornish members. The next step is the formation of a Branch in Cornwall, and I think the time has almost come for this step to be taken."

Referring to the Registration Bill, the speaker said now that the principle of the Bill had been approved they could be hopeful that it would pass with only minor amendments to the House of Lords. It must not be taken for granted, however, that further effort was unnecessary—the profession must keep a watchful eye until the Bill became an Act. Ultimately it might be expected that conditions of employment and standards of practice would gradually become better.

The vast amount of building going on all over the country to-day, proceeded the speaker, continued to keep the building industry fully employed. It had been estimated that the expenditure on buildings was about £200,000,000 a year, and of this sum about £150,000,000, or 75 per cent., was spent on domestic work.

In most of the larger and more important industrial, commercial and public buildings, churches, cinemas, etc., it was safe to say that architects had been engaged to design and supervise the work. This, however, represented only about 25 per cent. of our annual outlay, and it was evident that a very large portion of the domestic building had been done without making use of the architect's services.

Rural building was one of the problems for which it was difficult to find a satisfactory solution. Our country districts were unsurpassed for variety and beauty of character, and it would be a grave misfortune if development, resulting in the erection of buildings unsuited to their environment and ugly in appearance, continued to take place. In spite of the benefits resulting from the operation of the Town and Country Planning Act, and the good work of the Council for the Preservation of Rural England, and the Advisory Panels of Architects, much remained to be accomplished.

Architects, he thought, could assist the community by keeping a watchful eye on some of the smaller things that mattered in the preservation of rural amenities. Although by-laws were in force in most districts dealing with advertisement hoardings and regulating the appearance of filling stations, there was a need to guide and educate public opinion, and no one was better qualified to do so than the members of a society such as theirs.

Having paid a tribute to the work of the honorary secretary, Mr. J. Challice, and that of the assistant honorary secretary, Mr. O. Parker, the speaker said that his successor, Mr. J. C. C. Bruce, was well known to all. They had all been impressed by the charm of his personality, and knew that he had the interest of the Society very much at heart. He wished him a very successful year of office.

The New Council.

The following officers of council were elected for the ensuing year:—

President: Mr. J. C. C. Bruce, F.R.I.B.A. (Torquay).

Vice-Presidents: Messrs. R. F. Wheatly, B.A., F.R.I.B.A. (Truro), and J. Challice, A.R.I.B.A., P.A.S.I. (Exeter).

Past-President: Mr. Stanley Pool, A.R.I.B.A. (Truro).

Hon. Treasurer: Mr. John Bennett, F.R.I.B.A. (Exeter).

Hon. Auditor: Mr. L. F. Tonar, L.R.I.B.A. (Exeter).

Hon. Secretary: Mr. O. Parker, L.R.I.B.A., P.A.S.I. (Exeter).

The retiring President then invested Mr. Bruce with the President's badge of office.

On taking over the chair, Mr. Bruce thanked the members for the honour they had accorded him, and assured them he would do his utmost to serve the Society and preserve the cordial relations existing among its members.

THE NORTHERN POLYTECHNIC.

Department of Architecture, Surveying and Building.

THE annual Speech Night of the Department of Architecture, Surveying and Building of the Northern Polytechnic, Holloway, N.7, took place on Thursday, April 7. A number of distinguished architects, surveyors and representatives of the building industry were present, and the prizes were distributed by Mr. H. S. Goodhart-Rendel, President of the Royal Institute of British Architects. Mr. R. L. Roberts, M.A., presided.

Mr. T. E. Scott, F.R.I.B.A., F.I.B.D., Head of the Department, in presenting his report on the work of the Department, said he considered Mr. Goodhart-Rendel's presence a special tribute to the Department, and an indication of the school's close association with the Royal Institute. Referring to the day and evening Schools of Architecture, the speaker stated that enrolments in both sections were increasing, a pleasing tendency which he hoped, would be maintained. Although the training provided was organised with due regard to the fact that students expected to earn a living after completing the three years' day course, he would not wish it to be imagined that they trained only architectural assistants. Many past students were now in private practice, or occupying Government posts of responsibility both at home and abroad. Students' studies were carried out on the widest possible basis, their attention being directed to the finest achievements of the past as well as the present day, and the school did its best to ensure that the architect of to-morrow was not patterned merely according to the fashions of to-day.

The position in the Junior and Senior Day Schools of Building was not so satisfactory, since it was becoming increasingly difficult to find sufficient applicants for the scholarships and free places available, and it was his opinion that many boys in secondary schools would be all the better for a training which would fit them for the technical careers they would ultimately adopt. The Senior School did, however, include the sons of master builders, and he hoped this was a sign that the building industry was beginning to realise that technical education could do as much for building as it had done for architecture.

In the Evening School of Building enrolments had also increased, and, while there were some who did not maintain their early enthusiasm, others persevered through a long course of study, thereby improving their earning capacity and rendering valuable service to the community.

Educational Policy.

Continuing, the speaker remarked that he wished to stress two points of their educational policy—firstly, that they endeavoured to take account of all modern materials and methods as soon as they were considered acceptable to the building industry; and, secondly, that the instruction offered provided for the need for perpetuating skilled craftsmanship of a traditional nature. The

speaker concluded by thanking the staff for their loyal co-operation and untiring efforts during the session.

Following Mr. Scott's report, reference was made by the Chairman to an apprenticeship scheme now being inaugurated by the London Master Builders' Association, which body was the first to introduce standard rates of wages for apprentices. It was now hoped that under the new scheme apprentices would become indentured to the L.M.B.A., such action guaranteeing continuous employment, since, in the event of an employer completing his contracts, his apprentices could be transferred to another employer.

Mr. Goodhart-Rendel, in the course of his address, remarked that, although he probably owed the opportunity of speaking to the office he held in the Royal Institute of British Architects, he could speak more profitably in the capacity of the director of one school visiting another. He had always dreamed of the establishment in England of a national school of arts, subsidised by the Government, in which all young people with the necessary desire and talent could be fitted to serve their country in their several artistic vocations. This dream, however, seemed far from realisation, and instead we had a number of schools closely associated by the Board of Architectural Education, under whose conduct they ran an almost parallel course towards the goal of the Institute examinations. The educational policy of the Polytechnic schools of insisting upon thoroughness in the early stages of the course, thereby fitting students to be wage-earners directly they left the school, set an example of a particular duty very well done, and which other schools might do well to follow.

The First Year.

Regarding the type of employment open to students, the speaker impressed upon them the very real necessity for viewing the first year of working in architects' offices as a post-graduate course, and that, as far as their means would allow, they should choose their job for its usefulness as experience rather than for its rate of pay. It was never wise to get into a groove unless that groove led plainly to a partnership, but rather to travel from office to office, gaining valuable knowledge and experience from each. But whether in public or private employment, it was essential to see that as time went on their designing ability was not used by those who refused to acknowledge it publicly. Too often the assistant's work was endorsed by the employer, a system accepted as a mere matter of course, since architectural work was a business conducted in a business manner: but the art of the real artist arose from an instinct to communicate with his fellow-men, and it was a pity that he had to do this anonymously.

Another point stressed by the speaker was the usefulness of imitating a master's style. When the time came for assistants to undertake their first independent designs, he would consider it a pity if these did not very much resemble those of someone else. If the young imitator's work was better than that of his models, there was the sign of an auspicious beginning to an artistic career.

A vote of thanks to Mr. Goodhart-Rendel was moved by the Principal, Dr. T. J. Drakeley and seconded by Mr. G. R. Holland, F.I.O.B., President of the London Master Builders' Association, who said that the L.M.B.A. had raised the rate of apprentices' remuneration, hoping to encourage young men to serve a period of apprenticeship, after which time they would emerge as skilled craftsmen, instead of drifting into an unskilled trade.

The vote was supported by Mr. Martin S. Briggs, H.M.I., F.R.I.B.A., and followed by a vote of thanks to the Chairman, proposed by Mr. George Hicks, M.P., President of the National Federation of Building Trades Operatives, who stated that at the present time there were over 1,300,000 building trades operatives, and it looked as though the number would increase. Theirs was a particularly important industry, and he urged students to study and learn in order to give their country of their very best; even if they received no ultimate material reward they would be the better men for it, expressing and creating true dignity by means of their skill as craftsmen. The vote was supported by Mr. T. A. Darcy Braddell, V.-P.R.I.B.A.

THE POWERS OF THE QUANTITY SURVEYOR—XV

By W. T. CRESWELL, K.C., Hon.A.R.I.B.A., A.S.I., assisted by NORMAN P. GREIG, B.A., Barrister-at-Law.

Adjustment of Errors Made in Pricing Bills of Quantities.

It has already been stated that there is no obligation cast upon an employer or his agent to examine priced bills of quantities for the purpose of detecting errors previous to the acceptance of a tender, but there are obvious advantages to be gained by so doing. In the first place, there is less likelihood of difficulties arising while the works are in progress. Furthermore, by such examination the contractor can be informed of any obvious errors, and consequently be given an opportunity, should it be found advisable, to revise, or even withdraw, his tender before the formal contract is drawn up. This examination of priced bills of quantities for the purpose of detecting possible errors is often made part of the duties of the quantity surveyor.

The most frequent errors which occur in pricing are those in the unit prices or their extension, or in the carrying forward of totals cast or added up; and should they not be detected at the outset, are likely to remain unnoticed until the final adjustment of the contract accounts for extras and omissions.

As is well known, many building and engineering contracts (for example, the 1931 Form of Building Contract, clause 10) make provision for the adjustment of errors, and descriptions of items in the bills of quantities, in cases where the latter form part of the contract. Clause 10 provides that such are not to vitiate the contract but, in a word, are to be adjusted in the manner there stated. But forms of building and engineering contracts make no provision for the adjustment of the type of error aforementioned—that is, in the pricing or extension of items in the bills of quantities.

Let it be first made clear that the adjustment of errors in unit prices in a "measurement" or "rate of payment" contract is made, not on the basis of the extension, but on that of the unit price stated. In other words, errors in the extensions do not affect the final total, which is obviously arrived at on a consideration of the unit prices with the actual quantities measured when completed.

In a "lump-sum" or "entire" contract, however, any errors made in the unit price or extension do not affect the "lump-sum" price—that is, the amount payable on completion of the contract work.

Where, however, the contract works are varied, and entail "extras" and "omissions," the rule is to calculate the error and then treat it, as regards "extras," as a percentage of the lump-sum price to be deducted from or added to, as the case may be, the total of the difference between the measured "extras" and "omissions" first calculated and priced at the unit prices appearing in the bills of quantities.

The matter can be made clear by a practical example. An item which should be extended as £200 has, in fact, been extended at £150, with the result that the contractor has lost £50 by his error. The lump-sum price will, of course, remain if there are no variations, that being his offer or tender, but the error must be allowed for in the adjustment for "extras" in the final account, thus: Assuming the lump-sum price was £2,000, then the error of £50 is 2½ per cent. of that sum, for

$$\frac{50}{2{,}000} \times 100 = 2\tfrac{1}{2} \text{ per cent.}$$

The contractor must therefore be mulcted in 2½ per cent. on the total amount of extras measured and first calculated and priced at the unit price which appears in the bills of quantities—that is, 2½ per cent. must be deducted. Again, say an item which should have been extended at £150 has actually been extended at £200, then 2½ per cent. is added to the total amount of "extras" when determined.

"Omissions," however, are calculated at the unit price or extension appearing in the bills of quantities—errors are not taken into account in practice.

As to errors in the unit price itself. The error stands for both "extras" and "omissions," the contractor standing to lose or gain, as the case may be. There may be, of course, an error either in addition or casting up of the extensions, or in carrying forward the cast from one page to another. Assuming that a page is totalled up at £500 when the correct total is £550. If, for example, the lump-sum price is £5,000, this error represents 1 per cent.

$$\frac{50}{5{,}000} \times 100$$

It follows, then, that 1 per cent. must be added to or deducted from the total difference of the "extras" and "omissions," as the case may be.

It sometimes happens that a contractor, after making up the summary at the end of the bills of quantities, takes away from the total thereof, or adds thereto, an amount to round off the figures, or because he wishes to put in a lower or a higher tender than the pricing of the bills of quantities has given. In regard to the total of the "extras" a percentage is added to or taken off in the manner already described, and as the case may require.

The above methods are not applicable to P.C. or provisional items; they must first be deducted from the lump-sum price, and before assessing the percentage, for the reason that the contractor has no control over these items; the percentage adjustment extends only to those "extras" which the contractor himself has priced.

Day-work.

It is a matter of common knowledge that, in regard to the payment for "extras," it is a distinct advantage to the builder if he can obtain payment for these, or any of them, at day-work prices. On the other hand, it need only be pointed out that it is part of the quantity surveyor's duties to make the contract quantities apply, where possible, together with the prices allowable under it, for all items comprised in the bills of quantities. While there is often nothing in the quantities themselves in the nature of day-work prices, it is obvious that, in some contracts, there are frequently certain items of extra work for which it is impossible to pay on the basis of the bills of quantities. Payment for these must be obtained at day-work prices.

It should be noted, in this connection, that most large building and engineering contracts provide that the payment for extra work by day-work prices is allowable only when prices for payment cannot be made in any other way. Hence, in the 1931 Form of Building Contract, sub-clause (*a*) of clause 10 of that contract provides that, where extra work *cannot properly be measured or valued*, the contractor shall be allowed day-work prices at the rates stated in the bills of quantities, or, if none is stated, in accordance with the local day-work schedule of the Building Employers' Association. But in both these cases vouchers, specifying the time daily (and, if required by the architect, the workmen's names) and materials used, must be delivered for verification to the architect or his authorised representative at or before the end of the week following that in which the work has been executed.

Tin Research Publication.

The International Tin Research and Development Council has recently published "Frostiness in Plumbers' Solder" (Series A, No. 73), by F. A. Rivett, B.A. Copies of the publication may be obtained free from the International Tin Research and Development Council, Manfield House, 378, Strand, W.C.2.

TIMBER: ITS DISEASES AND METHODS OF TREATMENT

PAPER AT BUILDING SURVEYORS' ASSOCIATION MEETING.

This was the title of a paper read by Mr. Eric Rose, A.B.S.A., before a recent general meeting of members of the Building Surveyors' Association, held in the Municipal Annexe, Dale-street, Liverpool. After some introductory remarks the lecturer proceeded as follows :—

Timber is formed of hundreds of cells of varying kinds, each one having a distinct function to perform in the growing tree. The most important of these are the woody or pithy fibres. These are thick-walled hollow tubes overlapping each other. They are termed Tracheids—a word derived from the Greek "trachys," meaning windpipe. The function of true wood fibres is to give strength and toughness to timber—they are most noticeable in timbers common for their strength. Between the fibres are long tubular cells, called pitted cells. It is through these elements that the sap circulates. Penetrating vertically between the rows of circulatory vessels are groups of cells which radiate from the centre of the tree. These are the medullary rays, whose work it is to carry nourishment from the descending sap to the interior portions of the tree. In time the walls of these cells become thick and hard by their absorbing lignine or vegetable matter, thereby acting structurally as ribs and giving lateral strength to the timber.

The medullary rays, due partly to their relative denseness and partly to their horizontally arranged cellular tissues and the vertical arrangement of the rest of the tissue, produce what is called "figure," interwoven with the grain or direction of growth, when the surface of the boards cut from the tree lie parallel with the direction of their septa or partitions that separate the cells. In all softwoods these rays are too fine to be perceptible to the eye, although they are present. It may be concluded from these remarks that timber is a live object containing, as all living things do, a "life stream." Therefore it naturally becomes susceptible to attack from disease—which is only another kind of life.

What is rot in timber? Let me explain what I think happens when a piece of timber becomes affected by rot. We have briefly examined the structure of a piece of timber. From this we conclude that vegetable matter is drawn from the earth and air and converted into "woody fibre." This woody fibre remains in the cells forming part of the structure—after the tree is felled.

Despite the piece of wood having its supplies of vegetable matter cut off when it is felled, it is necessary to retain the woody fibre in the wood if life is to be maintained. If some form of protection is not given to this "life" inside the wood, it becomes open to attack by life in the air. This exists in rainwater, for instance, which, if allowed to remain stagnant on a piece of wood, ferments the natural secretions, which become oxidised or burnt up in the process. It is this action which absorbs all the valuable wood fibre from the cells and leaves the hollow shell which immediately crumbles to pieces. Before enlarging on this theory I should like to speak about a few of the diseases.

Diseases.

In the fungi class we will take the one most commonly known and which requires little introduction—Dry Rot, or Merulius Lachrymans. The damage caused to timber by this disease cannot be easily estimated. Although this particular disease, in its very advanced state, has a dry nature or appearance, it depends entirely on moisture, heat and air. If these three components are not present it cannot flourish. It varies in appearance, perhaps the most common being the long, cottony white masses, somewhat like cobwebs with frost on, called mycelium. Other means of detecting dry rot are by the various fruit bodies actually growing from the wood, and its lightness, crumbling at a touch.

If exposed to the light of day, the affected timber changes colour, bright orange and yellow patches or streaks appearing. Probably the easiest way of detecting dry rot is by smell—most of us having at one time or another detected that strong earthy or musty smell common in the older houses and buildings built before the advent of air-bricks, dampcourses, etc. It covers and penetrates the vessels and cells of the wood, searching for the wood substances which it absorbs, digesting and converting into sugar, finally developing into a thick oily or greasy mass, which in its early stages is covered with drops of water, like grass with the dew on it; this is why it is called Lachrymans. This disease has been known to penetrate brick walls in its search for food. The strands carry water in them which enables the fungus to attack even well-seasoned dry timber.

It will be seen that this insidious timber disease can travel throughout a building if not eradicated in its earlier stages. It is possible for a piece of timber to become infected through the air, as after a time—particularly if there is plenty of moisture—the Merulius puts out a fleshy growth called a "fruit body." This disseminates millions of very small spores which are capable of spreading the infection. In appearance they are like pancakes, soft but tough, being light yellow in colour. The body is composed of pores in which the rusty red spores are borne. These are so numerous that surrounding objects become covered in a red dust. The spores live for years, awaiting a suitable moment or condition to spring into life again.

The Cellar Fungus.

The Cellar Fungus is mostly detected under very wet conditions. It has long strands or tentacles about the substance of stout string, which at first are yellowish brown, changing until almost black. Unlike Merulius, this fungus does not develop into thick sheets or cushions. The effect upon timber is to change its colour to a deep brown, causing longitudinal splitting.

The "fruit body," which is olive-brown in colour, is confined chiefly to felled timber which has been allowed to lie for a lengthy period. The spores germinate quickly under favourable conditions, but its eradication is fairly simple. It is common in timber which contains much sap and is badly seasoned. The botanical term for this disease is "Coniophora Cerebella."

You may have seen a piece of timber with thousands of cracks in cube shape on its surface, the colour being white or cream. This disease, which is termed "Poria Vaporaria," depends on plenty of moisture for its existence. It is not very common in domestic premises, being confined chiefly to underground works, such as mines.

There are other lesser-known diseases met with in timber.

"Wet Rot" belongs neither to the fungi nor the insect class of attack, but is a chemical decomposition of the sap and fibre. It is caused by the oxidation of lignine or other vegetable matter, in the air or water. The oxygen combining with the carbon to form CO_2, and hydrogen to form H_2O. The hydrogen oxidises quicker than the carbon, resulting in an excess of the latter. The result of this is a brown snuff-coloured powder, which has a larger proportion of carbon than woody fibre.

Next we come to what perhaps is not a disease in the correct sense of the word, but one which has the same result—I mean the insect. In a sense these insects are not 100 per cent. enemies of timber, as they have certain definite purposes. Probably as much damage is done by these insects as the fungi family On the whole, I think, of the two forms of attack to which timber is open, the form familiar to rot is the most swift in its action. My reason for saying this is that vegetable or fungoid matter penetrates the entire structure of wood, thereby destroying its compressional and lateral strength, bringing about a complete collapse. Insect attack differs in that the various boring insects have no fixed line of penetration. It is much easier to detect the extent of damage caused owing to the entrance hole being discernible to the eye. Also, it is easy to renew parts affected, at the same time affording the opportunity of destroying the insect.

An important point to remember when dealing with insect attack on timber is that it is never possible to arrive at an opinion as to the numbers of insects present. The reason being that at certain periods of their life they fly. Therefore it is not wise to assume that because a piece of timber is covered with holes it is suffering from a mass attack by insects. Actually these holes are evidence that the insect has left the wood.

The Death Watch Beetle.

Take, for instance, the much-talked-of Death Watch Beetle. This beetle measures about a quarter of an inch in length, and is dark brown in colour, with patches of short yellowish hair on its back. Its term of life is not known, but specimens have been known to live as long as five years. The adults lay their eggs during the months of May or June. One beetle has been known to lay as many as 70 eggs, which are laid in cracks, crevices or old exit holes in timber. The incubation period is approximately 6-8 weeks, but varies according to weather conditions. The grubs, on coming to life, burrow into the timber for a period varying from 20 to 24 months. It is during this period that the real damage is done to the timber. In the autumn of the second year the larva turns into a pupa or chrysalis. After five or six weeks it sheds its pupal skin, but remains in the pupal chamber in the wood until the spring of the following year, when it emerges, leaving a hole in the timber about ⅛ in. in diameter. At this stage in their life they are able to fly, and so spread their destruction to other parts.

It will be noted that a large portion of the insect's life cycle is contained in larval form, during which time boring takes place. I have mentioned that these insects have a certain definite purpose which they do fulfil. This is in relation to the enormous amount of dead wood which is to be found in woods and forests. If this dead wood was permitted by nature to lie, fresh growth would be stagnated. Actually this dead wood is destroyed by the many species of insects, thereby allowing the soil to obtain the necessary constituents for maintaining plant growth.

Unfortunately for mankind, these insects have not confined their activities to this useful work, but have sought fresh fields to conquer —such as furniture and timber work in buildings. The problem of combating this ravage is one which has caused much expense and time in research work.

Another member of the same family is the furniture beetle. It is smaller than the Death Watch Beetle, being usually about ⅛ in. in length. It can also be distinguished from the latter by the covering on its back, having dark brown dots or dashes in lines running from the head. This type does not lay so many eggs as the Death Watch Beetle, averaging something like 20. They are quicker in hatching out, too, the larva immediately attacking the wood. The eggs are usually laid during June or July, earlier in warm temperatures. In the spring the larva bores its way to the surface of the timber, making a cavity in which it changes to the pupa. After remaining in this state for a few weeks, the adult development takes place. Then the fully grown beetle bites its way out, when males and females immediately pair up. This particular beetle is prevalent in wicker work.

The Lyctus Beetle.

We next come to the Lyctus beetle, of which four species are known to be prevalent in this country. The habits of all four are practically identical. They are very similar in shape to the Death Watch Beetle, if anything being more slender, but about the same length. Their life is much shorter than the two previous specimens dealt with. Softwoods are not so easily attacked by these beetles. They usually emerge about June, continuing until August. The eggs are inserted in the pores of the wood through the ovipositor of the female. This type of beetle is more common in open timber yards, with the result that its activities are somewhat irregular. The reason being that unless the weather is warm the larva will not feed. During the winter months they are inactive, changing to the pupal state about April. Lyctus does not bore so deeply as the furniture beetle, and usually lives near the surface, differing from the furniture beetle family in that it can only live on sapwood of certain hardwoods, and only then during a particular period. Walnut, oak, ash, elm, etc., are those woods usually attacked, but not teak. This beetle is the most destructive of all those I have so far mentioned. It reduces the wood to the density of flour, and is also the most difficult to detect. All new hardwood, on entering the timber yard, should be " sticked " with softwoods.

I would like to refer to one form of beetle which perhaps many of you may not have had the opportunity of dealing with, as it is common only in timber immersed in water. This is the shipworm or teredo, belonging to the group which includes oysters. It is a worm-like insect which has enormous boring powers. In the grub state it swims about until development is completed. Then it attaches itself to submerged timber. It immediately commences to bore into the wood, growing as it bores. Holes from this worm have been known to span an inch in diameter. The borings never cross, running parallel with one another down or across the piece of timber attacked. They are about 3 to 3½ in. in length, and the body is about as wide as strong twine.

Other types are the gribble—not unlike a woodlouse—also capable of causing much damage. It does not bore right into the timber, but attacks the sapwood. The gribble is common in timber immersed in water. The termites or white ants, whose habits and activities are similar to ants, live in colonies divided into workers and soldiers, with a queen who lays large quantities of eggs. The soldier ant is about an eighth of an inch longer than the worker ant, which it about a quarter of an inch long. Teak is immune from this species of insect, owing to its oily content, which is poisonous.

Methods of Treatment and Preservation.

If mankind did not take the trouble to combat these enemies of timber, I tremble to think of the consequences. Fortunately man's brain has triumphed, after years of war on these pests. One of the earliest-known methods of preserving timber which was partly or wholly buried in the ground or immersed in water was " charring "—a simple but successful remedy. This process consisted of charring the butts of timbers in a fire, until a layer of burnt wood about half an inch deep surrounded the butt. The object was to destroy that food matter contained in the outer sapwood or cambium layer. The insect, being unable to obtain nourishment, leaves the timber alone. Unfortunately, this method was very limited in its application, as naturally, to char timber which was used for decorative or structural purposes left much to be desired.

As civilisation progressed, mankind provided for himself better structures in which to live. The more crude habitations gave place to better types of construction. He naturally desired to protect his skilful efforts from attacks by insect and plant life, resulting in the introduction of paints and varnishes. Even taking these materials into consideration, mankind has not found a substance which permanently protects timber. By this I mean that unless application is systematic at regular intervals, our enemy, the insect, or fungus, strikes, and once having done so, no amount of painting will eradicate it. Until mankind can improve upon the present constituents of paint, I fear we shall have to put up with much inconvenience and expense.

Strange that a number of the mediums used to protect timber are derived from timber. These are tung oil or Chinese wood oil, turpentine and terebine. The two latter are obtained from such trees as the pine and larch —trees of the genus " Pistacia."

Through introducing these mediums to increase the rate of oxidation, mankind has created a serious weakness which destroys the real purpose of paint. It is a big temptation in these days of rapid building to introduce these materials, which cause the oil (the real protector) to absorb oxygen quicker than it would do in the natural order of things.

It is to be deplored that this state of affairs exists. What protection can possibly be obtained from introducing such ingredients as sulphate of lime, chalk or sulphate of barium? They merely extend the basic pigment of the paint, interfering seriously with the durability and protectiveness of the paint. The only safeguard in this direction is to insist upon all paints conforming to the British Standard Specification.

Permanent Protection.

The only permanent method of guaranteed protection for timber against rot or insect attack is impregnation, by some form of preservative. In this direction science has produced some splendid results. Unfortunately, science has not reached a standard in this direction which permits of the impregnation process being used as economically or in such a decorative manner as paint. Efforts are being made to improve the process of colouring woods, but, like all things in the pioneer stage—many obstacles have to be overcome. Other methods include Burnett's process, zinc chloride being the basic ingredient; Blythe's process, carbolic and tar acids being used; " Kyanising," mercuric chloride being used; Sublimate of lime, Carbolinium, Peterlineum, coal or Stockholm tar and creosote.

[The lecturer concluded with a description of the various processes.]

IN PARLIAMENT

Slum Clearance in London.

In reply to Mr. Morgan, Sir K. Wood said that since 1930 254 local inquiries had been held in London in connection with slum clearance orders; 732 orders had been confirmed as the result of inquiry or informal inspection by his inspectors.

Timber Houses.

Mr. L. Smith asked the Minister of Health whether he was aware that the Lanarkshire County Council was considering the erection of 500 timber houses in certain areas of the county; whether he would consider recommending an emergency policy of this nature to different housing authorities in Great Britain; whether there was any objection to the erection of such timber houses; and whether the by-laws of most local authorities permitted of their erection or would have to be altered for the purpose.

Sir K. Wood said that the answer to the first part of the question was in the affirmative. In regard to the second and third parts, he was advised that suitably constructed timber houses were satisfactory, but he did not think there was any necessity for him to issue any special recommendation to local authorities in England and Wales where the execution of housing programmes by normal methods had been less seriously hampered by shortage of bricklayers than had, he understood, been the case in Scotland. In regard to the fourth part of the question, building by-laws should not generally provide an obstacle to the building of such houses.

BOOK REVIEWS

Suffolk Churches and Their Treasures. By H. Munro Cautley, A.R.I.B.A., Surveyor to the Diocese of St. Edmundsbury. B. T. Batsford, London. Price £1 1s. net.

The impression created by this book, and by the thorough manner of its presentation, is that the author must indeed be an enthusiast. He has placed on record an account of no fewer than 505 Suffolk churches and their treasures, with descriptive matter according to their interest or importance. These are illustrated by over 400 excellent photographs taken by himself. Three of the plates are in colour: the beautiful village of Kersey, as yet, we believe, unspoiled; painted panels from the screen at Southwold; and glass in the east window at Long Melford church. It is interesting to read: " Though it is probable that plain glass was introduced into this country in the seventh century, coloured glass was not employed before the twelfth century. In this county the earliest remains are of the thirteenth century, and fragments may be seen at Pettistree, Great Fakenham, Horham and Yaxley. There is no figure work of this period remaining in the country."

A useful geometrical sheet shows the construction of six roof types. The chapter on roofs, indeed, is of absorbing interest, and a cause for wonderment at and admiration for the work of the old craftsmen. All examples have been photographed from excellent points of view. We commend especially the photographs of Needham Market—a wonderful piece of mediæval construction. Fonts and their covers form another interesting section. These are many and varied in design, some simple, others of great richness. Pulpits, altars, screens, towers, porches, glass, church furniture, wall paintings, etc.—the book deals with them all, and will give much pleasure to those who love the wonderful architectural heritage of Suffolk. A useful map shows the location of the churches mentioned.

Technical Drawing. By Giesecke, Mitchell and Spencer. Macmillan & Co., Ltd. Price 12s. 6d. net.

The standard of draughtsmanship amongst young architects and engineers is sometimes such that a good design is made to appear unnecessarily complicated by the manner in which it is expressed. If the advice and suggestions contained in this book are carefully studied by beginners in both professions, this difficulty should be substantially overcome. In addition to general notes on draughtsmanship and the use of instruments and various materials, there are chapters on the geometry of drawing.

Analysis and Design of Steel Structures. By Almon H. Fielder, Sc.D., and Frank Kerekes, C.E. Macmillan & Co., Ltd. Price 25s. net.

The authors of this book are professors of Civil and Structural Engineering at the Iowa State College, and the book is obviously intended primarily for the use of students.

After going over the usual book work essential to the design of steel structures, the authors deal in considerable detail with the design of various types of structures such as occur in buildings and also in bridge work. The latter part of the book is sufficiently advanced to tackle such matters as continuous frames and secondary stresses. The chapter on multi-storey buildings includes a fairly extensive construction of wind stress analysis, including the treatment recommended by the American Society of Civil Engineers.

Numerous problems are provided for solution by the student, and there are also many details and diagrams. The details and structural members illustrated are, of course, based upon American practice.

Structural Steelwork for Building and Architectural Students. By Trefor J. Reynolds and Lewis E. Kent. The English University Press, Ltd. Price 12s. 6d. net.

This book has been designed for the use of students preparing for examinations of the Institute of Builders, the Institute of Struc-

tural Engineers, and the Royal Institute of British Architects, and bearing in mind the limited purpose which it is intended to serve, it covers the subject very well. The clear style in which it is written should render it useful to those who wish to proceed to the above examinations by private study, or to those who need a text-book to amplify lectures taken at evening classes.

Heating and Air-Conditioning of Buildings. By Oscar Faber, O.B.E., D.C.L., D.Sc., etc., and J. R. Kell, M.I.H.V.E. The Architectural Press. Price 25s. net.

This book, containing over 400 pages, many diagrams and tables, and 32 half-tone plates, deals with the subject of heating and air-conditioning of buildings in a way which renders it useful not only to the designer and contractor for the actual installation, but also to architects. It is written in a non-technical style, with an absence of complicated mathematical formulæ, but nevertheless is comprehensive in its treatment of the subject, and the fundamental principles are clearly explained.

After dealing with the general problems that arise in connection with the heating of buildings, the authors describe various heating and hot-water supply systems. They also deal with the relative merits of various sources of heat and general running costs. No treatise on air-conditioning would be complete without a discussion on refrigeration, and this is also dealt with.

[Any of the above books may be obtained from the Publisher, *The Builder*, 4, Catherine-street, W.C.2.]

LAW REPORTS

King's Bench Division.

Before Mr. Justice du Parcq.

APPEAL FROM CORPORATION'S ORDER TO DEMOLISH MEWS.

In re the Housing Acts, 1925-36, and Camberwell (Wingfield-mews) No. 2 Clearance Order.

In this case the question for decision was whether, in a slum clearance order, mews can be treated by a local authority as dwelling-houses, this question coming before the Court on an appeal by Mr. Alfred Warren Butler from the order of the Minister of Health confirming the order of the Camberwell Corporation for the demolition of Wingfield-mews.

Mr. F. R. Evershed, K.C., and Mr. H. A. Hill appeared for the appellant, and Mr. Valentine Holmes for the respondent, the Minister of Health.

Mr. Evershed said that Mr. Butler, as trustee, was a mortgagee of the property the subject of the clearance order. There could be no doubt that the mews were originally built as stables with rooms above, and the main question in the case was whether it was within the powers of the Housing Act, 1936, to treat a garage underneath the dwelling as part of the house. The local authority had decided that the houses, for reasons stated in the Act, were unfit for habitation, and made a clearance order extending, not merely to that part of the premises in which human beings dwelt, but to the stables or garages beneath. So far as the appellant was concerned, if the order remained, the whole substance of his security would be destroyed.

Mr. Evershed, proceeding, said that the premises were not co-terminous. The dwellings had separate entrances, and were not of similar dimensions to the garages, and therefore, he contended, the premises were composite buildings. The rateable value of the garages was somewhat larger than that of the dwellings.

Referring to the provisions of the Act of 1936 (Sections 1-25), he said it contemplated two types of building—viz., dwelling-houses and other buildings. "Houses" might be included in a clearance order if, firstly, they were unfit for human habitation, and, secondly, if by reason of the narrowness or bad arrangement of streets they were dangerous or injurious to public health. In the case of "other buildings," only the second provision applied. It would appear impossible to have a clearance order composed exclusively of other buildings. The local authority had treated the property concerned as composed of dwelling-houses only.

His lordship: What would you do if you had on the ground floor of premises a slum which ought to be cleared out, and perfectly good premises on the second floor?

Mr. Evershed replied that that would be dealt with under a different part of the Act. If the local authority were satisfied that the dwellings upstairs were insanitary, they would close them. There was no complaint about the garages.

Mr. Holmes, supporting the order of the Minister of Health, contended that the mews were all one structure, and residents, if they wished, could sleep in the parts now used as garages. The view taken that they were dwelling-houses was, he submitted, the proper one.

Dealing with the evidence given at the Ministry of Health inquiry, Mr. Holmes argued that, whether the mews were "houses" or "other buildings," the condition brought them within the purview of the Act.

In the course of an elaborate considered judgment, his lordship said that his opinion was that the correct designation of the premises in question was "houses" for the dwellings above and "other buildings" for the garages below. Buildings were included in a clearance order either because they were unfit for human habitation or dangerous to health for specified reasons. It was not necessary to decide whether the whole of the mews should be regarded as one building or as a number of one-storey buildings. It had been stated that the upper floors were unfit for human habitation, but the whole of the property was, by reason of its arrangement, dangerous or injurious to health. There was ample evidence to support that finding of fact. The application to quash the order failed, and the appeal would be dismissed with costs. Order accordingly.

King's Bench Division.

Before Mr. Justice Macnaghten.

PLEA THAT BUILDING OPERATIONS EXCUSED PAYMENT OF RENT FAILS.

Baker-street Estates, Ltd., v. Jacobs.

In this case Baker-street Estates, Ltd., of Furnival House, High Holborn, London, W.C., brought the action against Mr. Harry Jacobs, of 134, Baker-street, W., to recover £450, three-quarters rent of the shop and basement of 134, Baker-street.

The defence was that the rent was not payable by reason of an agreement concerning interference with business caused by building operations.

It appeared that the defendant, Mr. Jacobs, carried on business as a ladies' costumier, and was the lessee of his premises, the plaintiff company being the landlords. His (defendant's) case was that the agreement under which he held the premises provided that in the event of certain building operations interfering with the carrying on of his business on the premises, no rent should be payable so long as the interruption continued. As from February 15, 1937, building operations had interfered and continued to interfere with business, and therefore no rent became payable during that time. He admitted that £85 was due in respect of the period December 26, 1936, to February 15, 1937.

After hearing the evidence, his lordship, in giving judgment, said he thought that the defendant's complaint as to noise, vibration and dust had been exaggerated, and that the plaintiff's construction of the agreement was correct—viz., that if building operations so interefered with the carrying on of the business as to cause interruption, then, and then only, the rent was to cease. He doubted whether the building operations did interfere in any reasonable sense of the word with the carrying on of the defendant's business. There was certainly nothing like an interruption of the business. The defendant had not in the circumstances established his defence, and there must be judgment for the plaintiffs for £450 and costs.

Judgment accordingly.

King's Bench Division.

Before the Lord Chief Justice and Justices Humphreys and Macnaghten.

BUILDERS' CLAIM FOR COMPENSATION FOR ACQUISITION OF THEIR LAND BY MIDDLESEX COUNTY COUNCIL.

George Wimpey & Co., Ltd., v. Middlesex County Council.

This was an appeal by way of case stated by Mr. Hugh Webster, an official Arbitrator under Section 6 (i) of the Acquisition of Land (Assessment of Compensation) Act, 1919.

The claimants, Messrs. George Wimpey & Co., Ltd., builders and contractors, of 27, The Grove, London, W., and elsewhere, were the owners of about 40 acres of land at Barn Hill, Wembley, Middlesex, which they intended to develop as a building estate of 362 houses. They had cut a road into it when, in December, 1935, the Middlesex C.C., under their Act of 1934, acquired it as an open space. The builders claimed £79,107 as compensation with interest at 5 per cent. from December, 1935.

Adjoining this land was another estate called No. 1, on which Messrs. Wimpey had erected a large number of houses. They claimed as compensation damages for the alleged injurious affection to that land, and among other items loss of profits put at £9,000.

The arbitrator held that to some extent No. 1 estate had been injuriously affected, because the inclosing of the adjoining land had robbed it of access to a main road, but on the other hand that it had been bettered by being alongside what would be open land.

The question was whether the arbitrator could deduct anything for that betterment or add anything for the injurious affection—the sums in either case being found to be identical—and whether Messrs. Wimpey could recover the profits they would have made had they been allowed to develop the land and build on it.

The Council contended that the only sum payable to the builders was the value of the land together with a sum equal to the expenditure on the land thrown away by its acquisition together with the actual amount of damage (if any) caused to No. 1 estate by the severance. The Council repudiated the claim for builders' profits.

The arbitrator found that if the builders were entitled to compensation without deduction for betterment and for loss of builders' profits, including the value of the land and expenditure thrown away, increased overhead charges, and damages for severance the amount should be £60,164.

If there was to be deduction for betterment but inclusive of the other items, the amount was fixed at £57,744, while if builders' profits were not to be allowed, but betterment included, the amount would be £51,164.

Finally, if there was deduction of betterment and no builders' profits, the figure was £48,744.

The questions for the opinion of the Court were, shortly, as follows:—

(a) Whether in the assessment of compensation no account was to be taken for betterment; (b) whether there should be deduction for betterment; (c) whether the claimants could be awarded builders' profits; and (d) whether the compensation should only include the value of the land, the expenditure thrown away, the damage for severance and increased overhead charges.

At the conclusion of the argument their lordships answered questions (a) and (c) in the negative, and (b) and (d) in the affirmative, and awarded the Middlesex C.C. the costs of the appeal.

Mr. Trustram Eve, K.C., and Mr. Arthur Capewell appeared for the claimants; and Mr. Cyril Radcliffe, K.C., and Mr. Harold B. Williams for the Middlesex C.C.

INQUIRY BUREAU

We are glad to give questions and answers, but cannot accept responsibility for contributed replies, especially on legal matters.
We do not undertake to reply to inquiries concerning proprietary materials.—ED.

QUESTIONS.

Purchase of House.

SIR,—In the absence of any specific agreement to the effect, has the purchaser of a newly built house any claim upon the builder-vendor for structural defects which may appear after the completion of the purchase?

PURCHASER.

Registration of Architects.

SIR,—It is not clear under the new Bill whether members of a society who do not register will be able to make use of their architectural affix without contravening the law. What I mean is whether an unregistered architect will be permitted to describe himself as an Associate of the Royal Institute of British Architects. Information on the point would be useful.

REGISTERED.

ANSWERS.

Contract Question.

[ANSWERS TO "ARCHITECT," APRIL 15.]

SIR,—This is a somewhat difficult question of a discrepancy in the contract documents. In most cases it would be possible to state with certainty that the contract agreement is the precedent document, the terms of which would override any discrepancies in other documents. In the present case the situation could be equally clearly stated if it could be shown that the contractor had observed the extended time allowed as entered in the agreement and had signed under that condition. It is well known, however, that building contracts are frequently signed without the specific care they demand, and presumably in this case the contractor had already expressed his willingness to enter into a contract with the original time limit, and no circumstances had arisen subsequently to bring about a change of conditions. In such circumstances, I think the equity of the situation would be properly met by observing the original time limit as binding upon the contractor as specified in the contract specification to which the agreement refers.

CONTRACT.

SIR,—There seems to be a contradiction of terms in the question. There can scarcely be two dates fixed for the completion of the contract. Was the date specifically named in the tender that was sent to the contractors, and did that agree with the form of contract? If not, the builder would have to say the time he required; whether the architect acting for the building owner agreed would be another matter. The question of the finishing time in any contract is of the utmost importance, but the length of time must agree, although dates may not do so. G. W. H.

"Steined" Brickwork.

[ANSWERS TO "C. S. B.," APRIL 15.]

SIR,—"Steined," sometimes written "steened," brickwork or masonry, refers to so much of the lining of an underground tank or well as is built to take soakage inwards or outwards. Honeycomb brickwork, masonry with a high proportion of weep-holes, or dry walling would fall under this category.

CONSTRUCTION.

SIR,—"Steined" brickwork means the lining of a wall or similar applications to prevent the sides falling in and to resist internal water pressure without deterioration. Bricks for this work must be hard, well burned and well shaped, and must be set in good hydraulic mortar, and the mortar joints must be as thin as possible. The "steined" lining is usually one course thick. W. E. W.

Rot in Floorings.

[ANSWERS TO "BERWYN," APRIL 15.]

SIR,—The cause of the dampness is probably the dampness of the site and the land around the site. Ventilation under the floors is not wholly effective if the area around the house is damp, as a certain amount of moisture is carried in with the ventilating air. The remedy is to put in hand drains around the house in order to drain the site. It is most likely that bad drainage is responsible, provided the building was originally properly dried out. W. E. W.

SIR,—Case 1: Apart from the area by the sink being rotten, probably caused by being always in a sodden condition, the fact that the site is not concreted would account for the flooring showing signs of mildew. The air bricks would not stop dampness rising. All sites under wooden floors should be concreted and preferably with waterproofed material. Case 2: Again the absence of waterproofed concrete all over the site is the cause of the trouble. Case 3: It has been held that in the case of ground floors wherever linoleum is laid trouble is sure to occur, sooner or later. I believe that some councils disapprove of laying lino on ground floors. The use of waterproofed concrete would perhaps cost a little more than usual at first, but eventually there would be a saving on damage to the timber joists and floors. G. W. H.

By-law Question.

[ANSWERS TO "ARCHITECT," APRIL 8.]

SIR,—This by-law is made principally in the interest of health to ensure that the occupants of the houses in question have sufficient air. The council can enforce this in the interest of the occupying tenants. Whether a right of way could be constructed depends on the ownership of the land and any restrictions on the property. If these did not forbid it a right of way could usually be made, as this would have no influence on health and would not interfere with air or light. Enforcing this by-law is a matter for the health authorities. W. E. W.

SIR,—The model by-laws have a preamble to those relating to air space which reads: "With respect to the sufficiency of the space about buildings to secure free circulation of air. . . ." The intention of the by-law is accordingly concerned with breathing space, and not the occupation of such space for the other amenities of domestic living. The clause which states that such space must "exclusively belong to the building," by inference thus signifies that it must be permanently secured to that building as air space. Its inclusion is obviously designed to prevent a minimum air space being shared by two or more buildings, thereby defeating the intention of the by-law. In my view, therefore, the existence of a right of way over this space, or even its use by a third party, would not violate the by-law so long as the space does not become detachable as a means of access of light and air to the building concerned.

BY-LAWS.

NATIONAL HOUSING AND TOWN PLANNING

The 38th annual report of the National Housing and Town Planning Council for the financial year ended March 31, 1938, has just been issued.

"In our movement," it states, "further substantial headway was made by local authorities in connection with the anti-slum campaign, and it is estimated that 200,000 replacement houses have now been completed by local authorities with State assistance. . . . Out of a total of 1,536 local authorities in England and Wales, the Minister of Health has now fixed the appointed day for 1,529 authorities. Although only a modest beginning has so far been made in the task of providing new dwellings for overcrowded families, it is hoped that the more generous Exchequer grants now available for this work will bring about some improvement in the rate of progress."

The report mentions the introduction by the Minister of Health in the House of Commons in February, 1938, of the Housing (Financial Provisions) Bill, which recently received the Royal Assent. This measure enacts, *inter alia*, that for new housing accommodation provided for slum clearance on the abatement of overcrowding and completed after the end of the year 1938, the rates of Exchequer contribution shall be on a uniform basis. The normal Exchequer subsidy will be at the rate of £5 10s. per house, payable annually for 40 years, but special rates of subsidy are available in three classes of cases where the Government feel that special assistance is necessary.

The steady increase in town-planning activity during 1937 is also noted, and the report points out that by the end of 1937 some 23 million acres of land, or more than three-fifths of England and Wales, were covered by planning resolutions or by schemes.

The report also contains notes and comments on the abatement of overcrowding; the Housing (Rural Workers) Acts, 1926 and 1931; the Housing Act, 1936; the Problem of Rent Restriction; "Housing and Town and Country Planning"; and the Housing (Financial Provisions) Act, 1938.

CHARTERED SURVEYORS' INSTITUTION.

The P.L.A. as Landlords.

Mr. R. Pentleton, Estate Officer of the Port of London Authority, recently gave a lecture to members of the Chartered Surveyors' Institution (junior organisation).

Following a discourse on the historical development of the Port of London and its present trade and influence in British commerce, Mr. Pentleton went on to say that the various dock estates of the Port of London authority cover an area of over 4,000 acres. In addition, the Authority held in reserve for future port development considerable areas of land which for the time being were let for such purposes as industry, agriculture, allotments, and recreation. They also own over 800 flats let on weekly tenancies.

To deal with dock lettings special knowledge was required, as apart from assessment for rental purposes, questions relating to dues on ships, rates on cargo carried, hire of cranes, railway services, provision of hydraulic power and electricity supplies were but a few of the items to be dealt with. In most cases the Fire Offices Committee were involved and the requirements of H.M. Customs and Excise had to be borne in mind. Lettings varied in nature, and included ships' berths, sites for flour mills, cold storage, meat-cutting sheds, offices, gear stores, shops, licensed premises, timber-storage sheds, berths and premises for the handling of a great variety of commodities including meat, green fruit, bananas, tomatoes, plywood, paper, motor cars, etc., engineering workshops, box manufacturing, etc., the management of which required not only a general knowledge of estate practice, including valuations of many descriptions and details of the laws appertaining to estates, but of the special by-laws and particular operations at the various docks within the port.

Map-Making.

Mr. G. T. McCaw, C.M.G., O.B.E., read a paper entitled "The Basis of Map-Making: Survey of Control," at the ordinary general meeting of the Chartered Surveyors' Institution on Monday, April 4. Introducing the paper, the lecturer pointed out that an historical study of map production or a technical description of map-construction were beyond the scope of a paper, but successful map-making was dependent on survey, and on survey in two forms; the survey of the detail and the survey of a general framework. The construction of the framework constituted the survey of the control on which the general accuracy of the detail mapping was fundamentally based. Thus limited, the subject was still much too big to be treated in a short space of time. There were, however, some aspects of it, of a nature mainly historical, which were worthy of contemplation and a study of those aspects often revealed features otherwise perhaps concealed. The speaker then proceeded with the paper on those lines.

NOTES ON ESTIMATING FOR BUILDERS' WORK—XV

By J. H. BARNS, F.I.O.B.

SMITH AND FOUNDER (Continued).

Rainwater Pipes.

CAST-IRON rainwater pipes, either round or square, are usually sold in 6-ft. lengths at current standard prices. Shorter lengths are sold at higher prices, as they would weigh more per ft., the socket being included the same as for the longer lengths. The pipes can be obtained with ears cast on, or without ears, at the same cost. The diameter of a rainwater pipe is measured from inside to outside. The merchants will supply the pipes painted with one coat of paint for about 5 per cent. extra on the cost of the pipes; this saves labour on the job, as it prevents them from becoming rusty, thus keeping them in a better condition ready for painters. Painting to rainwater pipes is usually done on the outside only, but they can be obtained painted on the inside at a small increased cost.

There are many methods of fixing rainwater pipes, the ordinary method being to nail the pipe to the wall through the ears provided. Most other methods make use of attachments to keep the pipes away from the wall and to allow room for painting behind the pipes. The cost of such fittings, according to the pattern selected, is usually small, but as they need to have their positions carefully set out on the wall, and holes cut by a bricklayer, and something or other built into the wall, the labour for fixing is usually an expensive part of the cost of the contrivances—say, 1s. 6d. per clip for each socket. The disadvantage of using some unusual fitting for fixing rainwater pipes is that when repairs become necessary it may be difficult to replace broken parts.

ROUND CAST-IRON RAINWATER PIPES.

Diameter ..	2 in.		2½ in.		3 in.		3½ in.		4 in.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Per yard—										
6 ft. lengths ..	2	2	2	3	2	11	3	3	3	10
2, 3 or 4 ft. lengths ..	2	5	2	6	3	2	3	6	4	1
Fixing ..	0	9	0	9½	0	10	0	10½	0	11
Each—										
Shoes ..	1	2	1	5	1	6	2	0	2	3
Offsets, 4½ in. to 6 in. projection ..	1	8	2	1	2	4	2	8	3	4
Single branches	2	0	2	5	2	11	3	4	4	0
Heads, flat or angle ..	1	11	2	2	2	7	3	2	3	6

For a fair quantity, slightly lower prices would be quoted.

The labour fixing shoes can be taken as about equal to half-yard of pipe of similar diameter.

Ditto fixing to offsets (commonly known as "swan necks") as one yard of pipe.

Ditto fixing branches (junctions) as two yards of pipe.

Example:—

— ft. run 3 in. diameter cast-iron rainwater pipe, with ears cast on, and fixing with galvanised nails to brickwork.

	s.	d.
6 ft. run 3 in. dia. rainwater pipe ...	5	10
2 nails, say	0	1
Red lead putty for joints, say ...	0	2
Fixing, 10d. per yard...	1	8
	7	9
Add for cutting, 10 per cent., say ...	0	9
Cost of 6 ft. length	8	6
Cost of 1 ft. length	1	5
Add scaffolding, say, ½d. per ft. ...	0	0½
	1	5½
Add profit and on-costs, say... ...	0	2½
Per ft. run...	1	8

When an estimate is prepared it is not usually known where the joints will occur in the rainwater pipes, or the lengths in which they will be required. The 10 per cent. included for cutting is a provision either for the labour and waste consequent upon cutting, or for the enhanced price of pipes if in short lengths. The item of 1½d. per yard included for scaffolding is a contribution towards the scaffolding which is, presumably, already in position. If special ladders or scaffolding have to be provided and erected, the cost must be added to the above.

Gutters.

Gutters may be roughly divided into two types—the half-round and the moulded sections. There are about three kinds of half-round gutter—the ordinary half-round, the deep and the deeper sections, and they are in three different thicknesses of metal, about ⅛ in., 3/16 in. and ¼ in. Moulded gutters are supplied in the ordinary "O.G." section, which is classed according to the width only (say 5 in.), no depth being stated, and in other sections where the width and depth are stated, such as 5 in by 4 in., etc. Half-round gutters will require some kind of wrought-iron bracket, of which there are many patterns, for fixing gutter. It is safer to use a bracket which has a clip at the back to prevent the gutter from tilting over when a ladder is placed against it. The "O.G." or moulded sections are usually screwed to a wood fascia. The screws may be the ordinary iron, brass or copper ones, but they are not very satisfactory, as the heads are small. The best method is to use (say) 1½ in. galvanised mushroom-headed screws, costing about ½d. each, which give a much better fixing.

ORDINARY CAST-IRON HALF-ROUND GUTTERS.

Width	3 in.		4 in.		5 in.		6 in.	
	s.	d.	s.	d.	s.	d.	s.	d.
Per yard—								
6 ft. lengths ..	1	5	1	8	1	11	2	11
Short lengths ..	1	7	1	10	2	2	3	2
Fixing	0	11	0	11	1	0	1	0
Each—								
Angles and nozzles ..	1	0	1	3	1	7	2	3
Stop ends	0	3½	0	4	0	7	0	8

Example:—

— ft. run 4 in. cast-iron half-round gutter, including brackets and fixing.

	s.	d.
6 ft. run 4 in. gutter	3	4
Gutter bolts and red lead	0	2
2 gutter brackets, say, 4d. each ...	0	8
Fixing, say	1	10
Cost of 6 ft. length	6	0
Cost of 1 ft. length	1	0
Add for cutting, 10 per cent., say ...	0	1
Add scaffolding, say, ½d. per ft. ...	0	0½
	1	1½
Add profit and on-costs, say... ...	0	2
Per ft.	1	3½

CAST-IRON O.G. GUTTERS.

Width	3 in.		4 in.		5 in.	6 in.	
	s.	d.	s.	d.	s.	s.	d.
Per yard—							
6 ft. lengths ..	1	8	1	11	2	3	3	1
Short lengths ..	1	10	2	2	2	6	3	4
Fixing	1	0	1	0	1	1	1	2
Each—								
Angles and nozzles ..	1	5	1	6	1	8	2	5
Stop ends	0	3½	0	3½	0	6	0	6½

Ordinary O.G. gutters have the backs slightly sloping. If supplied with straight back, the cost would be about 2d. per yard additional.

Example:—

— ft. run 4 in. cast-iron O.G. gutter with socketed joints, and fixing.

	s.	d.
6 ft. run 4 in. O.G. gutter	3	10
Gutter bolts and red lead	0	2
Screws, say	0	1
Fixing, say	2	0
Cost of 6 ft. length	6	1
Cost of 1 ft. length	1	0
Add cutting, say, 10 per cent. ...	0	1
Scaffolding, say	0	0½
	1	1½
Add profit and on-costs, say... ...	0	2
Per ft.	1	3½

Cast-iron Moulded Gutters, Ordinary Sections.

6 ft. lengths :—	s.	d.	
4 in. by 3 in.	3	0	per yard.
5 in. by 4 in.	4	1	,, ,,
6 in. by 4 in.	5	0	,, ,,
Cost of short lengths up to 2 ft.	equal to 1 yard.		
Above 2 ft. and up to 4 ft.	,,	1½	,,
Above 4 ft. and up to 6 ft.	,,	2	,,
Angles and nozzle outlets	,,	1	,,
Angle stop ends	,,	½	,,

Example:—

— ft. run 4 in. by 3 in. cast-iron moulded gutter with socketed joints, and fixing to wood fascia.

	s.	d.
6 ft run 4 in. by 3 in. gutter... ...	6	0
Gutter bolts and red lead, say ...	0	2
Screws, say	0	1
Fixing, say	2	0
Cost of 6 ft. length	8	3
Cost of 1 ft. length, say ...	1	5
Add cutting, 10 per cent., say ...	0	2
Add scaffolding, say, ½d. per ft. ...	0	0½
	1	7½
Add profit and on-costs, say... ...	0	3
Per ft.	1	10½

Steel Sashes.

Steel sashes are now extensively used, and where it is possible to use stock sizes, instead of having the sashes specially made, a saving in the cost would probably be effected.

The following prices include gunmetal stays and cockspur fasteners to opening parts, detachable curtain rod brackets, and painting one coat.

Extended hinges to allow for easy cleaning would be fitted without extra charge. The sashes can be obtained either for screwing to wood frames, or with lugs for building to brickwork, and the sashes should be bedded in mastic.

STOCK STEEL SASHES.	Height.	Price. No bars.		With bars.	
	ft. in.	s.	d.	s.	d.
2-light, one sash hung, 3 ft. 3½ in. wide ..	3 0½	15	6	18	3
	3 6	16	6	19	6
	4 11 7/16	18	6	23	3
3-light, centre sash hung, 4 ft. 10½ in. wide ..	3 0½	17	6	22	0
	3 6	18	9	23	9
	4 11 7/16	21	3	29	6
3-light, 2 side sashes hung, 4 ft. 10½ in. wide	3 0½	26	9	31	0
	3 6	28	0	33	0
	4 11 7/16	31	9	38	0
2-light, fixed sashes, 3 ft. 3½ in. wide ..	3 0½	7	0	9	9
	3 6	7	6	10	6
	4 11 7/16	8	9	14	0
3-light, fixed sashes, 4 ft. 10½ in. wide ..	3 0½	9	6	13	6
	3 6	10	0	14	9
	4 11 7/16	11	6	18	9

Fixing to deal frames would cost from about 4d. to 8d. per ft. super., according to size, and building in to brick reveals from about 6d. to 1s. per ft. super.

Doors and side lights are constructed of casement sections and are fitted with lock and two keys, bronze lever handles and bolts top and bottom.

Bronze threshold bars and friction stays at top of doors (to prevent damage by wind) are charged extra.

STOCK STEEL DOORS.	Prices. To open out.		To open in.	
	s.	d.	s.	d.
One pair with bars—				
3 ft. 9 in. wide overall by 6 ft. 6 in. high	140	0	148	6
3 ft. 9 in. wide overall by 7 ft. 0 in. high	140	0	148	6
With two wing lights, 7 ft. 1½ in. wide overall by 6 ft. 10 in. high, one wing light hung, the other fixed with top part hung	182	0	190	0

	s.	d.	s.	d.
Single door with bars—				
2 ft. 6 in. wide by 6 ft. 6 in. high	99	0	104	0
2 ft. 6 in. wide by 7 ft. 0 in. high	99	0	104	0
With one wing light, top part to open; 4 ft. 2½ in. wide overall by 6 ft. 6 in. high ..	115	0	120	0

[*Corrigenda.*—In last week's instalment of these articles, on page 757, under the subheading "Steel Reinforcement for Concrete," the line beginning "¼ in. round mild steel rods" should have read "¼ in. diameter mild steel rods." On page 758, middle column, the line beginning "23 ft." should have read "2-3 ft.," etc.]

THE BUILDING RESEARCH STATION

QUESTIONS AND ANSWERS.*

THE following are abstracts of inquiries recently submitted to the Building Research Station *. The information given in the replies quoted is based on available knowledge. It has to be borne in mind that further scientific investigations may, in the course of time, indicate directions in which the replies might be supplemented or modified. Moreover, the replies relate to the specific subject of each inquiry and are not necessarily suitable for general application to all similar problems.

Dampness in Buildings.

(This note concludes the series on dampness in buildings which have appeared in recent issues of the Notes from the Information Bureau.)

(5) HYGROSCOPICITY.

Dampness in buildings may be due to the presence of *hygroscopic* materials incorporated in their structure—i.e., materials which have the property of absorbing moisture from the atmosphere. Dampness due to condensation only occurs when the air in contact with a wall surface is cooled to the dew point, but if hygroscopic substances are present in the wall, liquid films form at a temperature well above the dew point and may persist under atmospheric conditions which are relatively dry. Nevertheless, the amount of moisture deposited in this way is greater the more humid the atmosphere, and for this reason dampness due to hygroscopicity may sometimes be confused with that produced by simple condensation.

The hygroscopic substances which cause trouble in building work are chiefly certain salts. Chlorides of calcium and magnesium and certain nitrates are hygroscopic, and great care should be taken that these salts are not introduced into the structure in any way. Chlorides of calcium and magnesium are constituents of sea-water, and it is from this source that trouble chiefly arises. It is recommended that sea-water, or sea-sand (unless *thoroughly* washed), should not be used in building work above damp-proof course level.

The great danger with hygroscopic materials is that the solution formed when moisture is absorbed from the air may spread to and contaminate other materials in the vicinity. For instance, if sea-sand is used in the plaster work of a building, the salt may conceivably spread to the brickwork or concrete structure, and while it would be a comparatively simple task to strip the plaster, nothing short of pulling down the building would remove the salt in cases where the brickwork or concrete is affected.

Other consequences of hygroscopicity include persistent dampness, injury to decorations and corrosion of metals, such as nails and screws, electric light conduits, which are either embedded in, or in contact with, the wall. The corrosion of steel from this cause gives rise to unpleasant brown stains in plaster.

Many cases of dampness due to this cause have been reported to the Building Research Station, including one in which a house had been flooded by sea-water and another in which sea-water had been used to quench a fire. In both these cases, even after all water had been removed, the houses found to be water-tight against penetration, and thoroughly dried out to prevent conditions conducive to condensation, the dampness persisted, due to the hygroscopic properties of the salts which permeated the whole of the structure.

Dampness due to the presence of hygroscopic materials can easily be identified by chemical analysis of the materials which show the dampness; the cure, however, is much more difficult. In cases where dampness is due to hygroscopicity, the only remedy which can unreservedly be recommended as being permanent and completely efficacious is to erect an internal structure or base for decoration out of capillary contact with the contaminated materials. Undoubtedly, in the case of walls, the best method by which this can be accomplished is to plug and batten the walls (all timber being treated with a preservative which will not harm applied decoration), finishing either with plaster-board and plaster or with a wall-board, as suggested previously as a remedy for dampness due either to general penetration or to condensation.

An alternative method, which may be used for local treatment, is to cover the contaminated areas with a lead foil or bituminous paper before decorating in the ordinary way. This unfortunately, however, accentuates the effects of any condensation on the treated surfaces.

Treating the affected parts of the structure with various chemicals in order to remove the hygroscopicity by changing the chemical nature of the materials causing the trouble, has been suggested, but this method does not appear to offer much prospect of success, and, in view of the possible harmful effect such treatment may have in other directions, cannot be recommended.

The injuries resulting from the presence of hygroscopic substances in the structure of a building are so severe, and the difficulty and expense of a cure so considerable, that the greatest care should be taken to see that the materials used are free from contamination. The use of unwashed sea or estuarine sand is perhaps the chief risk to be guarded against.

Nailing of Tiled Roofs.

An architect wrote that "galvanised nails had been used in fixing roof tiles instead of zinc nails, as orginally specified," and sought advice as to whether the galvanised nails, a sample of which was submitted, would fulfil their purpose as well as zinc. He had been informed that galvanised nails were commonly used in the district and gave satisfactory results.

REPLY.—The question of nailing tiled roofs was considered by the representative Committee which drew up the Code for Roof Tiling† published by the Building Industries National Council. The Code contains the following note with respect to galvanised nails :—

> "Galvanised nails must consist of steel or iron coated with zinc by dipping in molten zinc (spelter) at a suitable temperature. Galvanised nails must be not less than 1½ in. long and No. 12 gauge thickness.
>
> "NOTE.—Galvanised nails are adequately durable for use in rural or in urban districts where the atmospheric pollution is not high. In situations where the atmosphere is highly polluted, or on sites near the coast, or in normal sites where a higher degree of durability is demanded, galvanised nails are not suitable."

The nails submitted were actually 1½ in. long and No. 12 gauge thickness. Zinc nails are considered to be more durable than galvanised (yellow metal nails being more durable still). The zinc nails are said, however, to be not suitable for use on sites near the sea coast, and some tile fixers do not like using them, as they tend to be rather brittle and are not easy to drive. They are, of course, appreciably more expensive.

From the details given in the letter, considered in conjunction with the recommendations in the Code, it would seem that the use of galvanised nails would represent a reasonable standard, and could under the particular conditions be relied upon to give good service.

Hardening of Concrete.

A firm of sand and gravel merchants asked for advice as to the possibility of using a concrete bed only three days old for fixing a new crusher. The machine was urgently required, and it was proposed to use a rapid-hardening Portland cement in a mix of 4 cwt. cement to a cubic yard of aggregate consisting of 5 parts gravel to 3 parts of sand.

REPLY.—Under the conditions mentioned it should be possible to use the engine bed safely three days after laying. However, it is advised that the proportion of cement be increased to 5 cwt. per cubic yard of aggregate.

The placing of the concrete should be done in one continuous operation, and the consistence of the mixed concrete should be as stiff as possible. The finished bed should be covered with damp sacks or straw, as Portland cement concrete, which is kept warm and moist, develops strength quickly.

Naturally, a longer period than three days would be preferable in view of the vibration, but it is considered that the concrete would be strong enough in that time.

Lyctus Wood-boring Beetles in Structural Timbers.

An architect writes: "A client of mine has just discovered that his English oak staircase is being attacked by one of the wood beetles after having been erected a little over 12 months. The insect found is about ¼ in. long and about 1/16 in. wide, and is of a dark brownish-black colour, and seems to throw out from the holes a very fine, light fawn powder. Two of them have been found on the stair treads. After a close examination it was noticed that there were grooves on the nosing of one of the treads which may have been on the timber when erected.

"Is it certain or possible that the beetles were dormant in or behind these grooves at the time of the erection and have now become active? The attack is active near these grooves, and there are holes some distance away. Fresh ones continue to appear quite distant from the first holes. What is the best thing to do in such a case?"

REPLY.—This reply was furnished by the Forest Products Research Laboratory, Princes Risborough :—

It is likely that the insect responsible for the damage is one of the *Lyctus* Powder-post beetles. It would have been possible to confirm this opinion if samples of the beetles, some of the bore dust, or a small piece of the infested timber had been submitted.

The fact that there are grooves exposed on one of the stair treads suggests that infection was present in the wood before the staircase was erected. The presumption is that the grooves are actually *Lyctus* tunnels, which, though they do not normally occur on the surface, were in the present instance exposed during the working of the wood; and that, though some of the damage may have been removed at this time, further tunnels beneath the surface contained living grubs which later, on maturing, emerge from the wood in the form of adult beetles, specimens of which you are now finding. It should be emphasised that *Lyctus* attacks only the sapwood of certain hardwoods, and that during the early stages of attack there may be no external evidence of activity within the wood. It is not until the first beetle exit holes appear on the surface at least nine to 12 months after the eggs are laid in the pores that attack is usually first noticed, though, as already stated, tunnels made by young grubs may be exposed when the wood is being worked. Whenever sapwood of susceptible hardwoods is included in furniture, panelling, flooring, etc., there is always the danger of introducing *Lyctus*, which may not show its presence until later.

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† Code of Practice for Roof Tiling with Plain Tiles (Building Industries National Council, May, 1937, price 9d.).

In the present instance, it is recommended that any sapwood which has already been reduced to a powdery condition should be removed and replaced with sound, well-seasoned timber entirely free from sapwood. The remainder of the sapwood in the staircase should receive repeated brush treatments this summer with an insecticide. There are on the market a number of proprietary preparations suitable for the treatment of insect-infested timber. Several of these substances do not discolour wood or stain plaster, but they have a rather strong smell, which may persist for a short time unless plenty of ventilation is given both during and after treatment. Applications should be repeated at intervals until activity—as evidenced by the presence of bore dust on or beneath infested timber—appears to have ceased.

NEWS ITEMS

New Industries in South Wales: Treforest Progress.

Good progress continues to be made at the Treforest Trading Estate, which is rapidly becoming a centre of new industries in South Wales. Official reports show that at the end of March, only 15 months from the time when work was begun in preparing the site, six tenants were in active production, and others were about to start.

The goods now being manufactured on the Trading Estate include steel reinforcement for concrete.

Nearly 900 men are still employed in building and development work on the estate, of whom all but 44 are local, and in addition to tenants in occupation there are 20 for whom factories are in course of erection.

The social amenities on the Trading Estate are not being forgotten. Two canteens are being built which will provide meals for 500 to 700 people at one time, and they are being designed in order to be suitable for social gatherings and staff dances. A restaurant is also to be built for officials, executives and visitors to the estate.

Theobalds Park Sold.

Hampton & Sons, 6, Arlington-street, S.W.1, report the sale, following their recent auction, of Theobalds Park, Waltham Cross, Herts, to the Middlesex County Council. A freehold property with a fine mansion of historical interest, the grounds extend to some 76 acres. Mr. James Neilson, F.A.I., was associated with the sale of the property, which was offered by order of the mortgagees.

Merchandise Marks Act, 1926: Board of Trade Announcement.

The Board of Trade announce that an Order in Council was made on April 1, 1938, under Section 2 of the Merchandise Marks Act, 1926, requiring imported door bolts of iron or steel to bear an indication of origin. The Order is the Merchandise Marks (Imported Goods) No. 1 Order, 1938, and will come into force on June 1, 1938. The Order is being published, and copies may shortly be purchased from H.M. Stationery Office, either directly or through any bookseller.

Regulations Affecting Commercial Motors.

The Commercial Motor Users' Association (Inc.), 50, Pall Mall, London, S.W.1, have issued "The Construction and use of Motor Vehicles," a digest on the current regulations affecting commercial motor owners and drivers, compiled by Mr. Frederick G. Bristow, C.B.E., M.Inst.T. Among the matters dealt with are attendants on trailers, brakes, maintenance of vehicles and conditions of loading, mirrors, noise, overhang, springs, steering gear, towed vehicles, trailers, etc. The price of the booklet is 6d., and copies may be obtained from the Association.

The Gas Industry and the Empire Exhibition.

The Gas Industry will be represented at the Glasgow Empire Exhibition by a special gas pavilion and four other major exhibits. The gas pavilion—length 92 ft., width 66 ft.—will house various types of apparatus for the domestic and commercial uses of gas, and will include a demonstration theatre seating 200 people. A big industrial gas exhibit has also been arranged for the Palace of Engineering. Members of the British Gas Federation will visit the Exhibition on June 22 and 23, during the period of the International Engineering Congress, in which the Institution of Gas Engineers is co-operating. It is probable that some time in September members of the International Gas Union, representing a score of different countries, will visit Bellahouston Park.

Building Estates.

Messrs. Henry Joel, Ltd., 32, Shaftesbury-avenue, Piccadilly Circus, W.1, in conjunction with Mr. Leslie Raymond, F.S.I., F.A.I., of Edgware, have sold for immediate development 25 acres of a freehold building estate at Stanmore. Mr. William Thorpe, F.S.I., of Mill Hill, acted for the purchaser. The land in question faces the roundabout at the top of Edgware-road, and has extensive frontages to Stanmore-road and Brockley-hill. Of this estate there remains a further 45 acres, 12 of which have been scheduled as part of the green belt, leaving 33 acres fronting Brockley-hill for sale.

Having sold 91 acres of the 172-acre estate at Totteridge to the Barnet Council for part of the green belt, Messrs. Henry Joel, Ltd., can now offer only 81 acres for development. Situated as it is, overlooking the South Herts Golf Club, as well as the now permanent open space, this estate is claimed to represent some of the finest building land available close to London.

Kiln-seasoning Treatments of Teak.

The Department of Scientific and Industrial Research has published "Kiln-seasoning Treatments of Teak and Their Effects on its Wearing Qualities as Flooring," Part I by R. A. G. Knight, B.Sc., A.M.I.Mech.E., and A. R. Dean; Part II by F. H. Armstrong, M.Sc., A.M.I.Mech.E. (Forest Products Research Records—No. 23). Copies of the Report, price 6d., are obtainable from H.M. Stationery Office, Adastral House, Kingsway, London, W.C.2.

NEW INVENTION

PIPE-LAYING: NEW METHOD OF JOINTING.

An invention that promises to be of interest to the building industry has been recently patented by Mr. J. H. Lowe, a building inspector in the service of the Ruislip-Northwood Council, and Mr. W. King, an engineer. They have introduced a new method of jointing, for use in pipe-laying, by which bitumen is used in conjunction with a papier-maché collar. A demonstration of the speed at which the operation can be carried out was recently given by the inventors on a building site. A line of 4-in. pipes was laid, and the actual joints completed at the rate of one a minute. The unions were clayed-round (for districts where clay is not common an auxiliary washer is provided), the papier-maché collar fitted and the two ends pressed home. The joints were filled with bitumen through a hole at the top of the collar, and in a few minutes, as soon as the bitumen had cooled, a water test was made. Every joint in the line of pipes, it is reported, was found to be water-tight.

It is estimated that a workman can do 70 cement joints in a day. At the demonstration 12 joints were made in 17 minutes.

Other advantages claimed for the bitumen joint are that, with the patent collar, pipes are automatically centred; bitumen is claimed to be immune from chemical decomposition from an acid soil or sewerage containing an acid content; to be sufficiently elastic to support the pipes in the event of a soil subsidence; and to withstand fracture from traffic vibration.

COMPANY NEWS

Bovis, Ltd.

Messrs. Bovis, Ltd., building contractors and decorators, 82, South Audley-street, W.1, announce their profit for 1937 to be £38,950, against £38,157 in 1936. An ordinary dividend of 10.4 per cent. was recommended and passed, and £10,000 was added to the general reserve and £5,000 to the reserve for contingencies. £1,054 is carried forward, against £1,025 last year.

Federated Employers' Insurance Association, Ltd.

The directors' report upon the trading of the Federated Employers' Insurance Association, Ltd., together with the statement of accounts for the year ended December 31, 1937, shows that the premium income was £353,915 6s. 3d., as against £302,130 15s. 6d. for 1936. The directors have placed to reserve for outstanding claims the sum of £161,491 15s. 5d., and to reserve for unexpired risk £106,112 13s. 8d. The unexpired risk reserve represents 40 per cent. of the total premium income for the year after deduction only of reinsurance premiums. Owing to depreciation of investments, £6,147 3s. has been provided from the investment fluctuation reserve fund instituted for that purpose.

After making the foregoing provisions there is a surplus on the year's working of £25,682 3s. 6d., and this, together with the balance brought forward from 1936 of £6,525 1s. 5d., makes a total of £32,207 4s. 11d., which has been dealt with in the following manner: (a) final dividend for 1936, £2,859 7s. 6d.; (b) interim dividend for 1937, £2,812 10s.; (c) office furniture, amount written off, £1,181 17s. 4d.; (d) staff contingency reserve, £750 4s. 9d.; (e) general reserve fund, £17,500. Out of the balance of £7,103 5s. 4d. is paid a final dividend of 6d. per share, less income tax, which will absorb £2,812 10s.

The directors report that they have accepted with regret the resignation from the Board of Mr. Charles H. Long, J.P., who had been a director of the Association since 1926. Sir William Edge, Bart., J.P., M.P., of Raphael-street, Bolton, has been elected a director, and Mr. Arthur Townson, the director to retire in accordance with the Articles of Association, has been re-elected. Messrs. Webb & Hall, the auditors, have also been re-elected.

NOTCHED BAR IMPACT TESTING.

The Joint Committee on Materials and their Testing draw attention to the publication of the reprints of the first general discussion held under their auspices in Manchester in October last. All the papers on Notched Bar Impact Testing then presented, with the report of the discussion and communications, are now available as excerpts from the transactions of the Manchester Association of Engineers, which undertook responsibility for the publication as well as for the local arrangements.

The titles of the four papers included in the reprints are as follows:—

1.—"Impact Testing from a Physical Standpoint," by Professor R. V. Southwell, M.A., F.R.S., University of Oxford.

2.—"Some Aspects of the Notched Bar Test," by L. W. Schuster, M.A., British Engine and Boiler Insurance Co., Manchester.

3.—"The Development and Present Position of Continental Research on the Notched Bar Test," by Dr. Ing. Max Moser, Friedr. Krupp A.G., Essen.

4.—"Discussion of the Impact Test," by Capt. R. K. Haskell and H. C. Mann, U.S. Ordnance Department, Watertown Arsenal.

Copies are available in stiff paper covers, price 3s. 6d., post free, from the Secretary, Manchester Association of Engineers, St. John-street Chambers, Deansgate, Manchester, 3.

NEW BUILDINGS IN LONDON

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Where business representatives cannot be seen personally at this stage, this should be mentioned. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Wednesday morning.

ADDINGTON. — HOUSES.—The Croydon C.B. has recommended plans by the First National Housing Trust, Ltd., 10, The Boltons, S.W.10, for 131 houses Wolsey-crescent, 46 The Parkway (Lodge-lane), 74 Salcot-crescent, 34, Ownsted-hill, 80, Gascoigne-road, and 26, Walsingham-road.

BERKELEY-SQUARE. — PREMISES. — An eight-storey building is to be erected in Berkeley-square on the site of Nos. 20, 21 and 22, between Bruton-place and Bruton-street, which are now being demolished. The architects are Messrs. Howard and Souster, 3, St. James's-street, S.W.1, and the building contract has been placed with Messrs. Harry Neal, Ltd., 117, Baker-street, W.1.

BRENTFORD.—ESTATE.—Plans have been prepared by Messrs. Hillier, Parker, May and Rowden, 27, Maddox-street, W.1, for the development of an estate in London-road for industrial purposes. The contract for the erection of the large number of standard factories will be carried out by Messrs. E. D. Winn and Co., Ltd., 36, Wilton-place, S.W.1.

CAMDEN TOWN. — FLATS. — Messrs. Leonard Burgoyne and Co., 199, Marylebone-road, N.W.1, are associated with a scheme for three large blocks of working-class flats at 28-38 and 42-74, Stibbington-street, N.W. The architect is Mr. Albert Dawkins, 43, Howards-lane, Putney, S.W.15.

CHESSINGTON.—CHURCH.—The Kingston Wesleyan Methodist Circuit has acquired a site in Church-lane and Bridge-road for a church, Sunday schools, etc. The plans have been prepared by Messrs. Perriam and Son, Regent House, Regent-street, W.1.

CROYDON. — ALTERATIONS.—The Council will shortly be in a position to place a contract for building alterations at Queen's-road Homes, amounting to approximately £40,000.

CROYDON.—COLLEGE.—The sub-committee of the E.C. have conferred with the architect, Mr. Robert Atkinson, F.R.I.B.A., 13, Manchester-square, W.1, and the borough engineer upon matters relating to the preparation of sketch plans and estimates for the erection of the Technical College. A rough estimate of the cost is £250,000.

CROYDON.—ALTERATIONS.—Messrs. Elcock and Sutcliffe, "Adam House," 60, Strand, W.C.2, are the architects for alterations to form a bank at "Equitable House," George-street. No contract placed.

CROYDON.—FLATS.—The C.B. has recommended for approval the plans submitted by Mr. S. J. Kemp, 79, Park-lane, for a block of 21 flats, on the site of "Beech House," Park-lane, at the corner of Beech House-road.

CROYDON. — ADDITIONS. — Messrs. Ind Coope and Allsopp, Ltd., Maple House, Dingwall-road, are to have alterations and additions made to the "Black Horse" public-house, Lower Addiscombe-road. The plans have been approved by the C.B.

CROYDON.—BUILDING.—The C.B. recommend a tender for the building works connected with the reconditioning of the Woodside school, and application be made to the B.E. for approval of the final plans and the M.H. for sanction to borrow £19,000. A tender for the building works in connection with the rebuilding of the Purley Oaks school is also recommended for acceptance, and application to be made to the B. of E. for approval of final plans and to the M.H. for sanction to borrow £31,500. The Housing Committee recommend 22 houses on the land fronting The Glade; and continuation of Ashtree-way to The Glade and the erection of 56 houses on land abutting on the proposed road. The Council are to accept a tender for the two blocks of 24 flats at the Sumner-road end of the Leighton-street, area at £12,861.

EDMONTON.—SHOPS.—Mr. Ronald Ward, 33, St. George's-road, S.W.1, is the architect for 10 flats, etc., at the junction of Bridport-road and Somerset-road. The contractors are Messrs. E. R. Terry, Ltd., of 15, Greengate, Greenford.

ELTHAM.—ALTERATIONS.—And additions are to be made to the Bon Ton Laundry, Eltham High-street, S.E.9, to the plans of Mr. D. J. Moss, 228, Farmers-road, S.E.5. The contractors are Messrs. W. E. Wright (Eltham), Ltd., 158, Eltham Hill, S.E.9.

HOLLOWAY-ROAD. — IMPROVEMENTS. — Mr. R. J. Coles, 76, Gordon-road, Woodford Green, is the architect for improvements at No. 66. The contract has been placed with Messrs. A. Cox and Co., 118, South Birkbeck-road, Leytonstone, E.11. Mr. Coles's address is 76, Gordon-road, and not 40 as stated in a previous issue.

HOXTON. — FLATS. — The Haberdashers' Co. has acquired a site in Fanshawe-street, N.1, for a block of working-class dwellings. The contract has been placed with Messrs. Haymills (Contractors), Ltd., Hanger Green, Ealing, W.5. The plans are by Mr. Noel D. Sheffield, 18, St. Thomas's-street, S.E.1.

HOXTON. — REBUILDING. — Messrs. Charrington and Co., Ltd., Mile End-road, E., have placed a contract with Messrs. W. Loweth and Son, Ltd., 67, Downs Park-road, Hackney, E.8, for the rebuilding of the "Prince of Wales" public-house in Hyde-street, N.1. Plans have been prepared by the company's architect, Mr. S. C. Clark, F.R.I.B.A., 86, Fenchurch-street, E.C.3.

ILFORD.—ADDITIONS.—Are to be made to Messrs. Moulton's premises at 185, High-road. Mr. W. J. Lewis, F.R.I.B.A., Cranbrook House, Cranbrook-road, Ilford, is the architect. Messrs. Clemens Bros., Ltd., of East Ham, E.6, have been accepted at £2,456 for the work. The shop fittings are to be carried out by Messrs. Frederick Sage and Co., Ltd., at £3,125. This paragraph corrects the one published in our issue of April 8.

ILFORD.—BRANCH.—Messrs. Lloyds Bank, Ltd., Lombard-street, E.C.3, have decided to erect new banking premises at Gants Hill Cross, Eastern-avenue. Plans have been prepared by Mr. A. G. Johnson, of the bank's Premises Department, King William-street, E.C.4. No contracts placed.

KENTISH TOWN. — CHURCH. — The Lutheran Church proposes to erect a new Luther-Tyndale Memorial Church, etc., in Leighton-crescent, N.W., to plans prepared by Messrs. Newberry and Fowler, FF.R.I.B.A., Parliament-mansions, Orchard-street, S.W.1. The contract has been placed with Messrs. Hammond and Miles, Ltd., Scrafton-road-works, Ilford.

KINGSBURY. — HOUSES.—The Wembley T.C. has agreed to the principle of the erection of council houses on certain parts of Park-road, and the Housing Committee is to consider and report on a suitable lay-out together with estimates.

KINGSBURY.—SCHOOL.—A R.C. mixed junior school is to be erected in Elmwood-crescent. The Wembley T.C. has approved the application, and Mr. Norris, of Messrs. Sandy and Norris, 22, Greengate, Stafford, is the architect.

KINGSBURY. — FLATS. — The Wembley T.C. are inviting tenders for 39 flats in two blocks on sites at the junction of Church-lane and Elthorne-road.

LEYTONSTONE.—FLATS.—Messrs. Artisan Developments, Ltd., Aylmer-parade, High-gate, N., propose to erect a block of 30 flats, etc., in Essex-road and Hainault-road. Plans have been prepared by Messrs. Nidditch and McDonald, National Bank-chambers, High-gate, N.2.

LOUGHTON. — SHOWROOMS. — The Gas Light and Coke Company, Horseferry-road, S.W.1, has acquired a site in the High-street for branch showrooms and depot. The architect is Mr. Michael Tapper, F.R.I.B.A., 1, St. Leonard's-terrace, Chelsea, S.W.3.

MIDDLESEX.—SCHOOLS.—The E.C. have accepted the tender of Messrs. Y. J. Lovell and Son, Gerrards Cross, at £20,265, for a junior and mixed infants school at Bath-road, Harlington Corner, Cranford. The Board of Education have approved plans for a school, to accommodate 528, in Marsworth-avenue, on the Pinner Wood Park estate, Pinner, for the Committee, and the tender of Mr. Albert Monk, of Edmonton, has been recommended at £29,864 for acceptance.

NORTH FINCHLEY.—STORE.—Mr. W. J. Lewis, F.R.I.B.A., Cranbrook House, Cranbrook-road, Ilford, is the architect, and Messrs. C. F. Day, Ltd., of 705, High-road, Finchley, N.12, are the builders for a new store in Castle-road and Great North-road, and not as incorrectly stated in our issue of April 8. The tender price is £15,853.

NORTHOLT. — ESTATE.—Plans have been prepared by Mr. S. H. West, 8, Central-buildings, Broadway, Ealing, W.5, for the development of the Medlar Farm Estate, Church-road, involving about 300 houses, four roads, etc.

NORWOOD. — ADDITIONS.—The Croydon C.B. has passed plans for Messrs. Upsons, Ltd., 7-13, Great Dover-street, E.C.1, for alterations and additions to 79, High-street, South Norwood.

SOUTHALL.—SHOPS.—The T.C. has sanctioned plans submitted by Mr. J. N. Graham for five shops with flats over, on the north side of Uxbridge-road at its junction with the west side of Dane-road.

SOUTHWARK. — REBUILDING. — Proposals for rebuilding the Women's University Settlement, Nelson-square, Southwark, S.E., have been considered at the annual meeting, but nothing has yet been decided.

SOUTHWARK. — REBUILDING. — Messrs. Watney, Combe, Reid and Co., Ltd., Stag Brewery, S.W.1, are to rebuild their "Swan" public-house in Old Kent-road, S.E.1. The contractor is Mr. Horace V. Clogg, 159, Hanbury-street, Whitechapel, E.1. The brewery architect is Mr. A. W. Blomfield, F.R.I.B.A.

ST. PAUL'S.—STATION.—Messrs. J. Carmichael (Contractors), Ltd., 331, Trinity-road, Wandsworth, S.W.18, have received the contract for the building work in connection with the enlargement and improvement of St. Paul's Station for the L.P.T.B., 55, Broadway, S.W.1. The company's architect is Mr. S. A. Heaps, L.R.I.B.A.

STRATFORD.—HOUSES.—The West Ham C.B. are inviting tenders for 42 houses and construction of roads and sewers on a site near Bisson-road, High-street, E.15. Mr. W. Lionel Jenkins, Borough Engineer, has prepared the plans.

TAVISTOCK-SQUARE. — CONVERSION. — Plans have been submitted to the St. Pancras B.C. for conversion of No. 30 into offices, with living accommodation, for occupation by the Incorporated Dental Society, Ltd.

TAVISTOCK-SQUARE. — EXTENSIONS. — Messrs. Douglas and J. D. Wood, 1, Old Burlington-street, W.1, are the architects for extensions to the premises of the British Medical Association. No contracts yet placed.

THAMES DITTON. — MAISONETTES. — The Bunting Construction Co., Ltd., of 49, Baker-street, W.1, are commencing the development of roads, sewers and 84 maisonettes in Speer-road, Thames Ditton.

TWICKENHAM.—HOUSES.—The T.C. had before it for approval the erection of 30 houses on the site of about four acres which Messrs. F. A. Brown and G. L. Shaw submitted.

UPPER NORWOOD. — ADDITIONS. — The South Suburban Co-operative Society, 99, London-road, Croydon, are to make alterations and additions to 64-66, Westow-hill. The architects are Messrs. Bethell and Swannell, 16a, John-street, W.C.2, and the building contract has been placed with Messrs. Henry Kent (Builders), Ltd., 51, Beacon-road, S.E.13.

UPPER RICHMOND-ROAD.—SHOWROOMS. —Messrs. Rix and Rix, High-street, Burham, Bucks, have prepared plans for Messrs. Joseph Mears, Ltd., who are erecting themselves new showroom, workshop and service station at Nos. 284-286.

VICTORIA.—REBUILDING.—The Army and Navy Stores, Ltd., 105, Victoria-street, S.W.1, are proposing the demolition and rebuilding of their Howick-place premises. The plans have been prepared by themselves and the building work is being carried out by Messrs. Holloway Bros. (London), Ltd., 157, Millbank, S.W.1.

WADDON. — EXTENSION. — The Croydon C.B. has passed plans for the Metal Propellers, Ltd., Purley Way, Croydon, for extension to their factory.

WALTHAMSTOW. — REBUILDING. — The Board of Governors of the Connaught Hospital has approved a scheme for the rebuilding and enlargement of their premises in Orford-road, E.17, at £160,000. The plans have been prepared by Mr. William Stewart, F.R.I.B.A., 90, Fenchurch-street, E.C.3. No contracts placed.

WEMBLEY.—FLATS.—The Central London Building Co., 346-350, Kilburn High-road, N.W.6, are to erect from plans prepared by their own architects 36 flats at the junction of Hay-lane, Roe Green and Stag-lane on the site of Haydon House.

WEMBLEY.—FLATS.—The T.C. has approved plans submitted by Messrs. Lewis and Williams for 48 flats in Church-lane, opposite "The George" public-house.

WESTMINSTER.—ALTERATIONS.—And additions are to be made to the "Old Coffee House" public-house, Beak-street and Marshall-street, for Messrs. Watney, Combe, Reid and Co., Ltd., Stag Brewery, S.W.1. The contractors are Messrs. H. and J. Taylor (Contractors), Ltd., Canada House, Hither Green-lane, S.E.13. The brewery architect is Mr. A. W. Blomfield, F.R.I.B.A.

BUILDING STATISTICS

Employment.—During March employment continued to improve, and was fair on the whole, states the current issue of the "Ministry of Labour Gazette." The improvement affected all administrative divisions and all occupations, but was most marked in the painting and decorating branch. At March 14, 146,529 insured persons were unemployed (4,669 being only temporarily stopped), a percentage of 14.2. This was 3.1 per cent. and 1.5 per cent. better than for the month before and the year before respectively.

Building Plans Approved.—Returns as to the estimated cost of buildings for which plans were approved during March have been received from 142 Local Authorities (representing towns with a population of 17,320,000 in 1931). The returns show that, in March, 1938, plans were passed for buildings with an estimated cost of £8,489,500, compared with £9,687,100 in March, 1937. This represents a decline of 12.4 per cent. Comparison of various classes of building is as follows :—

	March, 1938.	March, 1937.
Dwelling-houses	5,295,300	5,807,600
Factories and Workshops	526,900	1,066,200
Shops, Offices, Warehouses, etc.	941,500	876,400
Churches, Schools, and Public Buildings	770,400	954,900
Other Buildings, and Additions and Alterations ...	955,400	982,000
	8,489,500	9,687,100

Figures for February.—In last month's issue of the "Gazette" figures were given for 142 Local Authorities in respect of plans approved during February, 1938. Returns for the latter month are now available for all of the 146 Local Authorities covered by the Department's inquiries (representing towns with a total population of 17,864,000 in 1931). The estimated cost of the buildings included in the returns was £7,943,200, compared with £8,761,300 in January, 1938, and £10,699,200 in February, 1937. Of the total for February, 1938, dwelling-houses accounted for £4,840,000; factories and workshops, £406,800; shops, offices, warehouses and other business premises, £957,900; churches, schools and public buildings, £754,100; other buildings, and additions and alterations to existing buildings, £984,400. The number of dwelling-houses for which plans were approved by the 146 Authorities in February was 9,606, as compared with 11,458 in January, 1938, and 10,906 in February, 1937.

The Health Congress.

The Royal Sanitary Institute, in the preliminary programme of the Health Congress, which is to be held at Portsmouth from July 11 to 16, announce that the subjects to be discussed at this year's Congress will include : The future of the general hospital; Clinics for the pre-school child; Air-raid precautions; the Housing (Rural Workers) Act; operation of the Housing Act, 1936; disinfestation by diffusion screens; town planning; and the drainage and plumbing of Earl's Court Exhibition. The Congress will have as president the Right Hon. the Earl of Bessborough, P.C., G.C.V.O. As usual, a Health Exhibition is being arranged in connection with the Congress.

NEW CINEMAS

ABERDEEN.—Plans have been approved for the erection of a cinema at the junction of King-street and Frederick-street by Messrs. James S. Donald (Aberdeen Cinemas), Ltd.

ALDRIDGE (STAFFS). — The Avion Cinema Corporation propose the erection of a cinema. Mr. R. Satchwell, L.R.I.B.A., 6, New-street, Birmingham, is a director of the company.

DARLINGTON.—Messrs. J. H. Morton and Sons, Martin's Bank-chambers, Fowler-street, South Shields, are the architects for a cinema to be erected in Cobden-street, Eastbourne.

LINLITHGOW. — Associated British Cinemas, Ltd., propose the erection of a cinema. Mr. W. R. Glen, F.R.I.A.S., is staff architect.

MILE END-ROAD.—Messrs. Marfix Co., Ltd., 102, Albany-street, N.W.1, will carry out the demolition and building contracts for a cinema on the site of the Empire, for Associated British Cinemas, Ltd., 30, Golden-square, W.1. The architect is Mr. W. R. Glen, F.R.I.A.S.

PRUDHOE-ON-TYNE. — The Prudhoe Cinema Co., Ltd., proposes to erect a cinema with 1,000 seats. The architect is Mr. J. N. Fatkin, 17, Bigg-market, Newcastle.

RENFREW.—Plans are being prepared for the Robert V. Singleton Syndicate, Ltd., Kilpatrick-street, London-road, Bridgeton, Glasgow, by Messrs. John McKissock and Son, 65, Renfield-street, Glasgow, for a cinema to be erected at the junction of Rose-street and Renfrew-road.

RUSHALL.—The Avion Cinema Corporation propose the erection of a cinema. Mr. R. Satchwell, L.R.I.B.A., 6, New-street, Birmingham, is on the board of directors of the company.

SOUTH SHIELDS.—It is understood that a new site is being obtained for a proposed cinema at Marsden for Messrs. Shephard and Thomson. Plans for the building on the original site were approved some time ago. The architects are Messrs. J. H. Morton and Sons, Martins Bank-chambers, Fowler-street, South Shields.

STAINES.—Messrs. Marfix Co., Ltd., 102, Albany-street, N.W.1, will carry out the demolition and building contracts for a cinema on the site of the Bridge House Hotel, for Associated British Cinemas, Ltd., 30, Golden-square, W.1. The architect is Mr. W. R. Glen, F.R.I.A.S.

STROOD.—Holborough Cinemas, Ltd., propose the erection of a cinema in High-street to seat 1,200. The architect is Mr. F. C. Mitchell, L.R.I.B.A., 80, George-street, Portman-square, W.1.

WALLSEND-ON-TYNE.—It is proposed to repair and renovate the Borough Theatre. Mr. W. Riddle, 53, Denham-terrace, Wallsend, is the architect.

PUBLIC WORKS

GT. BRITAIN (Ministry of Health).—Following are notes on some loans sanctioned by the Minister of Health during the week ended April 9: Altrincham B.C.—£25,870 for 60 houses at Craven-road; Birmingham C.C.—£34,850 for the first instalment of the Sheldon Hatchford Brook Council Sch.; Blaydon U.D.C.—£38,777 for 24 houses at Barlow, 50 houses at Hallgarth and 38 houses at High Spen; Brighton C.B.C.—£33,000 for paddling pool, boating pool, putting greens and rest gardens near West Pier; Carmarthen C.C.—£36,530 for Llanelly Girls' County Sch.; Denton U.D.C.—£24,974 for 68 houses at Tame-street; Durham R.D.C.—£50,888 for 135 houses on various sites in rural district; Easingwold R.D.C.—£13,304 for provision of water supplies to various parishes; Horsham R.D.C.—£12,360 for provision of water supplies; Mansfield B.C.—£19,090 for fire station; Middlesbrough C.B.C.—£14,880 for remand home; Nidderdale R.D.C.—£14,700 for provision of water supplies to various parishes; Norham and Islandshires R.D.C.—£37,434 for 94 houses in various parishes in rural district; Richmond (Yorks) B.C.—£20,630 for 56 houses on Reeth-road site; Rickmansworth U.D.C.—£20,000 for purposes of advance under the Small Dwellings Acquisition Acts, 1899-1923; Southwark M.B.C.—£33,633 for purchase of site in Suffolk-street and Borough High-street for baths; Stafford C.C.—£29,865 for the Kingswinford proposed Senior Mixed Council Sch.; West Hartlepool C.B.C.—£8,350 for levelling and fencing of Civic Aerodrome; West Riding of Yorkshire C.C.—£34,814 for new Senior Public Elementary Sch. at Darfield.

GREAT BRITAIN. — Among contracts advertised in this issue by local authorities as being open to tender are : Dover T.C.—163 houses or flats and 3 shops and houses combined at St. Radigund's-road (No. 3), and Bunker's Hill housing estates; Staffordshire C.C.—School in Station-road, Great Wynley, also alterations and additions to Alleyne's Grammar School, Stone; Torquay T.C.—188 houses at Watcombe housing estate; Ilford T.C.—School at Lord-avenue; Nuneaton T.C.—School at Manor Park; Northampton T.C.—Houses and shops; Liverpool T.C.—110 flats on Portland-street site; Towyn U.D.C.—38 houses.

THE USES OF NICKEL

REFERENCE to the increase in the variety of uses of nickel was made by Mr. D. Owen Evans, M.P., delegate director of the Mond Nickel Company, Limited, at a luncheon in London last week. "Before the war production of nickel was small," he said. "It increased during the war, and since then our efforts have been directed to the use of nickel in great variety for peace-time purposes. Research has been carried out in America and Great Britain. In Birmingham there is a laboratory equal to any in the world."

The speaker went on to say that not one article for use in war would be shown on the comprehensive exhibit of the Mond Nickel Company in the Palace of Engineering in the Empire Exhibition to be opened by the King at Glasgow on May 3.

The stand, which is designed to appeal not only to the engineer but the general public, will present in non-technical manner some of the many applications of nickel alloys. Examples will be shown of the effective use of nickel silver in architecture, for this material is employed extensively at the present day for decorative metalwork, as it harmonises well with many metallic and non-metallic materials. The stand itself indicates some uses of nickel silver in architecture.

In the manufacture of bricks and cement considerable wear takes place in grinding machinery and in chutes, dies and plates used in the shaping of bricks, pipes and earthenware articles. "Ni Hard," a white or chilled cast-iron alloyed with nickel to give a high degree of hardness without loss of toughness, has already found many uses in this field.

A MASK IN NICKEL SILVER.

(See this page.)

REARMAMENT AND THE BUILDING INDUSTRY

DEFENCE MINISTER'S APPEAL.

Sir Thomas Inskip, Minister for the Co-ordination of Defence, who was accompanied by the Minister of Labour, Mr. Ernest Brown, met the Joint Consultative Committee of the Building Industry on April 13. At the meeting the Defence Minister continued the series of appeals which he is making to the organisations of employers and operatives for the acceleration of production on armaments.

After the meeting it was stated in an official announcement that the Minister for the Co-ordination of Defence referred to the effect on the building industry of the Government's decision to accelerate the rearmament programme. He thanked the representatives of the employers and the operatives for their co-operation in the past and asked for a continuation and, if necessary, an enlargement of the efforts of the industry in the future.

Mr. George Hicks, M.P., president of the National Federation of Building Trades Operatives, and Sir Jonah Walker-Smith, M.P., director of the National Federation of Building Trades Employers, assured the Minister of their continued desire to assist in the carrying out of the programme.

∴ Formed nearly 18 months ago, the Joint Consultative Committee consists of five representatives each of the National Federation of Building Trades Employers and the National Federation of Building Trades Operatives, with 10 representatives of the Government contract departments, presided over by Sir Thomas Phillips, Permanent Secretary of the Ministry of Labour. Ordinarily, there are about four meetings a year, but a sub-committee consisting of a representative of each of the Federations and of the Government department involved, presided over by an official of the Ministry of Labour, meets at intervals to settle individual matters connected with the distribution of labour and the maintenance of adequate supplies—the principal aims being to avoid the dilution of skilled labour and to keep within limits the allowance of special rates for operatives coming to the jobs from a distance.

[See Editorial Comment, page 775.]

SLUM CLEARANCE AND REHOUSING

The most recent figures issued by the Ministry of Health showing the position of slum clearance and rehousing are summarised below. Clearance Areas and Orders : During March local authorities declared areas comprising 4,978 houses representing the displacement of 17,794 persons, as compared with 5,049 houses and a displacement of 18,901 persons in February. The Orders submitted during March covered 4,403 houses, and the displacement of 15,803 persons, as compared with 3,713 houses and the displacement of 13,487 persons in February. The orders confirmed during March covered 4,986 houses and 20,559 persons, as compared with 3,541 houses and 17,193 persons in February. The total number of houses in confirmed Orders is now 181,452, involving the displacement of 773,654 persons.

With regard to Rehousing Progress, the latest available figures are those for February. At the end of that month there were 67,528 houses under construction, as compared with 68,381 at the end of January and 58,276 at the end of February last year. 7,344 houses were completed during February as compared with 6,389 during January and 5,553 during February, 1937. The great majority of these houses are being provided for rehousing persons displaced in connection with slum clearance schemes.

New Houses approved during March constitute a record high figure—13,422 as compared with 7,976 in February and 6,675 in January.

CONTRACTS OPEN

For some contracts still open, but not included in this list, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender, that a fair wages clause shall be observed, that no allowance will be made for tenders ; and that deposits are returned on receipt of a bona-fide tender, unless stated to the contrary. A dagger (†) denotes closing date for applications for particulars ; other dates are those for the submission of tenders ; the name and address at the end refer to the person from whom particulars may be obtained. Abbreviations : (A.) for A.R.I.B.A. ; B. of E. for Board of Education ; B.C. for Borough Council ; B.E. for Borough Engineer ; B.S. for Borough Surveyor C. for Clerk ; C.B. for County Borough ; C.C. for County Council ; C.E. for County Engineer ; C.S. for County Surveyor; D.S. for District Surveyor ; E. for Engineer ; E.C. for Education Committee ; (F.) for F.R.I.B.A. ; (L.) for L.R.I.B.A. ; M.W.B. for Metropolitan Water Board ; M.H. for Ministry of Health ; M.T. for Ministry of Transport ; P.C. for Parish Council ; R.D.C. for Rural District Council ; S. for Surveyor ; T.C. for Town Clerk and Town Council ; and U.D.C. for Urban District Council.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, &c.

APRIL 24.

***Amersham R.D.C.**—45 houses, various districts. Kemp & How, 4, Bloomsbury-sq., London, W.C.1. Dep. £2 2s each (8 schemes).

APRIL 26.

Nottingham T.C.—Washhouse at City Mental Hospital, Mapperley. R. M. Finch, City E. and S. Dep. £2.

†Thedwastre R.D.C.—28 houses. Hunt & Coates, architects, 51a, Abbeygate-st., Bury St. Edmund's. Dep. £2 2s.

***Torquay T.C.**—188 houses, Watcombe housing estate. B.E. Dep. £5 5s.

APRIL 27.

Bath T.C.—564 houses on Roundhill and Whiteway estates (3 contracts). City E. Dep. £2 2s. each.

Denbighshire and Caernarvonshire C.C.—Repainting of Talycafn bridge over River Conway, between Conway and Llanrwst. C.S., 46, Clwyd-st., Ruthin.

High Wycombe.—Works at Booker Isolation Hospital. C. Dep. £3 3s.

Kiveton Park R.D.C.—76 houses. W. M. Gibson, S. Dep. £2.

Lincoln T.C.—Conversion of outbuildings at city health dept., Beaumont Fee, for use as decontamination and training centre. City S., Silver-st. Dep. £1 1s.

Loddon R.D.C.—Painting 44 houses in various parishes. C. R. Cadge, clerk.

Newcastle-upon-Tyne T.C.—Heating and hot water supply for deep X-ray therapy and radium department, Newcastle General Hospital. City Architect, 18, Cloth-market.

Rochdale T.C.—228 houses on Clover Hall estate, and 72 on Channing-st. estate. B.S. Dep. £2 2s.

†Stourport-on-Severn U.D.C.—109 houses at Manor Farm housing scheme. Pritchard, Godwin & Clist, architects, Bank-bldgs., Kidderminster. Dep. £2 2s.

Walsall T.C.—20 1-bedroom and 12 economic rent type houses on Ryecroft site, section 9. M. E. Habershon, B.S. Dep. £3 3s.

APRIL 28.

Acton T.C.—External painting, etc., to large and small mansions, Gunnersbury-pk. B.E. Dep. £1 1s.

Bieldside.—Installation of hot water heating system at Deeside Golf Clubhouse. Henderson & Nicol, 21, Bridge-st., Aberdeen.

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Contract Guarantee Bonds

Blackpool T.C.—Painting of Central Library and Art Gallery, Queen-st. B.E.

Blyth R.D.C.—4 pairs of houses at Great Glemham. E. C. Kitchen, S., Rendham-rd., Saxmundham. Dep. £1 1s.

Bolton T.C.—Sub-station abutting Green-st. H. E. Annett, B. Electrical E., Back-o'-th'-Bank. Dep. £1 1s.

Bolton T.C. — School, Breightmet (Crompton Foid). B.E. & S. Dep. £1 1s.

Bolton T.C.—Demolition of old property and erection of 30 houses on Kay-st. site. Housing Director. Dep. £2 2s.

Burton-upon-Trent T.C.—Houses and bungalows, at Rosliston-rd. housing scheme. B.E. and S.

Down E.C.—Schools. H. Dinsmore, secretary, 1 Wellington-pl., Belfast. Dep. £2 2s.

Hawick.—Employment exchange at Common Haugh, Teviot-cres., for H.M.O.W. Architect, H.M. Office of Works, 122, George-st., Edinburgh, 2. Dep. £1.

Leeds T.C.—Painting at Hunslet Library. J. E. Acfield, City E

Lunesdale R.D.C.—6 houses in New-st. and 2 in High-rd., Halton. E. Ellis, S.

Nant Conway R.D.C.—Twenty non-parlour three- and four-bedroom type houses in Penmachn, four in Cwm, and 16 in Penmachno. S., Rosehill-st., Conway. Dep. £2 2s.

Newport (I.O.W.) T.C.—Convenience and shelter at Victoria recreation ground. G. A. M. Gentry, B.E.

Ripponden U.D.C.—Alterations to cowshed, Blackhouse Farm, Soyland. G. S. Taylor, New Council Offices, Oldham-rd.

St. Faith's and Aylsham R.D.C.—Houses. E. R. Larner, S. Dep. £1 1s.

St. Germans R.D.C.—Block of 4 parlour type houses at Delaware and 3 blocks of semi-detached non-parlour type at Seaton. J. Percival Heath, C., "St. Germans," Lower Port View, Saltash. Dep. £2 2s

Sheffield.—Extension to Owlerton T.E., for H.M.O.W. Room 65D, Third Floor, Office of Works, London, S.W.1. Dep. £1.

Uxbridge U.D.C.—Steel-framed corrugated iron garage at Harlington-rd., Hillingdon. E. F. T Bolton, E. and S., 263, High-st.

APRIL 29.

Cambridgeshire C.C.—Cottage and set of farm buildings at Swaffham Prior. County Agricultural Officer, Shire Hall, Cambridge.

Dublin T.C.—537 houses and estate office annexe on Larkhill housing area. H. G. Simms, architect, 3, Parliament-st. Dep. £5 5s.

Durham C.C.—Heating installation at New Silksworth school. F. Willey (F.), 34, Old Elvet.

Ealing T.C.—Fencing at Perivale Park. Parks Superintendent, Town Hall, W.5.

Essex C.C.—Reconditioning farmhouse at Lordships Farm, Writtle, for conversion into two cottages. County Land Agent, 69, Duke-st., Chelmsford. Dep. £1 1s.

Llandilo R.D.C.—18 houses at Blaenau-rd., Llandebie. T. G. Price & Griffiths, 44, Rhosmaen-st., Llandilo.

Malling R.D.C.—Painting and decorating. J. Hole, S., Council Offices, West Malling.

Newcastle.—Telephone repeater station. for H.M.O.W. Room 65D, Third Floor, Office of Works, London, S.W.1. Dep. £1.

Newport (Mon.) T.C.—(a) Building and (b) site works, St. Julian's schools. Borough Architect. Dep. (a) £5 5s., (b) £2 2s.

***Northampton T.C.**—8 shops, 4 houses, Spencer estate; 217 houses, St. David's estate. B.E. Dep. £5.

APRIL 30.

***Aberystwyth.**—Works. Registrar, University College of Wales.

Alnwick R.D.C.—Repainting of 126 houses. C. M. Farrell, S., 34, Green Batt.

Banbury T.C.—Open-air swimming pool. B.E. and S. Dep. £5 5s.

†Bristol T.C.—Works at Mental Hospital, Fishponds. Edwin S. Hoare & Ptnrs., 39, Broad-st. Dep £3 3s.

Ebbw Vale U.D.C.—12 parlour type and 56 non-parlour type at Rassau. P. I. Davies, E. and S. Dep. £5 5s.

Hampshire C.C.—Temporary classrooms, cloakrooms, etc., at various schools. County Architect, The Castle, Winchester.

Lexden and Winstree R.D.C.—2 houses at East Mersea. Baker & Burton (L.), 3, Church-st., Colchester.

Norwich T.C.—Works at senior boys' school, Catton, and junior and infants' schools and welfare centre, Earlham North estate. City Architect.

Penrith U.D.C.—Public slaughterhouse. E. and S.

Portrush U.D.C.—Conversion of generating station at Dunluce-st. into hall, also living apartments at fire brigade station, garage and bathing boxes, Town S.

Royston U.D.C.—Painting of 190 houses on Park View housing scheme. J. W. Wilson, S., High-st.
†Stratford-on-Avon R.D.C.—68 houses. J. H. Knight & H. W. Carter, architects, 5, Rother-st. Dep. £2 2s.
***Towyn U.D.C. (Merioneth).**—38 houses and other works. C. Dep. £2 2s.
West Riding C.C.—Alterations to heating installation, South Milford school. J. Smith, Divisional C., Garforth.
West Riding C.C.—Alterations at "Uplands," Staincliffe County Hospital, Dewsbury. West Riding Architect, County Hall, Wakefield.
Wivenoe U.D.C.—Walls and gateway at entrance to playing fields, High-st. C. W. Denton, C. Dep. £1 1s.

MAY 2.

Blaengarw.—Alterations to hall at Workmen's Institute, for Committee. Arthur G. Edwards (L.), 59, Park-st., Bridgend. Dep. £1 1s.
Bognor Regis T.C.—4 shelters on Promenade. E. and S.
Braughing R.D.C.—12 houses at Buckland, Buntingford. Ernest G. Thody, S., Bridgefoot House, Buntingford. Dep. £1 1s.
Dingwall.—Telephone exchange and garage at High-st., for H.M.O.W. Architect, H.M. Office of Works, 122, George-st., Edinburgh. Dep. £1.
Ipswich T.C.—10 houses and 3 shops on Greenwich and Gainsborough estates. E. McLauchlan, B.C. and Water E.
Luton T.C.—Painting of buildings, fencing, etc., in parks and recreation grounds. J. W. Tomlinson, B.E. and S.
***Manchester T.C.**—Stands. City Architect. Dep. £1 1s
Stepney T.C.—(a) 42 dwellings at Limehouse Fields, and (b) 15 dwellings at Market-bldgs. B.E. and S., Raine-st., E.1. Dep. £5.
Sunderland.—Ward block, nurses' home and outpatient dept. at Royal Infirmary. Wm. & T. R. Milburn, architects, 17, Fawcett-st., Sunderland. Dep. £2 2s.
Sutton-in-Ashfield U.D.C.—Maternity and child welfare clinic, New-st., Huthwaite. W. Burn, S., Forest Lodge, Station-rd. Dep. £2 2s.
West Riding C.C.—School works. Education Officer, County Hall, Wakefield.
West Sussex C.C.—Cow-stall and dairy at Small Holding No. 144, Aldingbourne. C. G. Stillman (F.), Chichester. Dep. £1 1s.

MAY 3.

Bedfordshire C.C.—Painting of Court House in Saffron-rd., Biggleswade; painting to police buildings and superintendent's house, High-st. South, Dunstable. Architectural Department, Shire Hall, Bedford. Dep. £1 1s.
***Dorset C.C.**—Floors, etc., new police station, Poole. County Architect, Dorchester.
Oxford T.C.—Entrance lodge and 2 cottages at isolation hospital, The Slade, Headington. H. F. Hurcombe, City Estates S. Dep. £2 2s.

MAY 4.

Attleborough, Norfolk.—Post office, telephone exchange and garage, for H.M.O.W. Room 65D, Third Floor, Office of Works, London, S.W.1. Dep. £1.
Beaminster R.D.C.—2 houses at Halstock. Robt. Leigh, C. Dep. £1 1s.
East Murton P.C.—House and other work in connection with lay-out of burial ground. E. Shield, S., 11, Knaresboro'-rd., Murton, Co. Durham. Dep. £2 2s.
Flintshire E.C. — Painting and decorating at schools. R. G. Whitley, (L.), County Architect and S., County Buildings, Mold.
Guildford R.D.C.—Cottages. J. W. Wilton, E. and S. Dep. £2 2s.
Rothwell (Leeds).—Telephone exchange, for H.M.O.W. Room 65D, Third Floor, Office of Works, London, S.W.1. Dep. £1.
States of Guernsey.—Terminal building and utility block, etc., at La Villiaze. Norman & Dawbarn, architects, 43, Grosvenor-pl., London, S.W.1. Dep. £2.
West Ham T.C.—42 houses and roads and sewers nr. Bisson-rd., High-st., Stratford, E.15. W. Lionel Jenkins, B.E. Dep. £10.
Worcester—Employment exchange, for H.M.O.W. Room 65D, Third Floor, Office of Works, London, S.W.1. Dep. £1.

MAY 5.

Limpley Stoke (Wilts).—Telephone exchange, for H.M.O.W. Room 65D, Third Floor, Office of Works, London, S.W.1. Dep. £1.
Luton T.C.—External painting to 122 houses, Russell Rise and Stopsley. J. W. Tomlinson, B.E. and S.
Manchester E.C.—Alterations and sewage disposal scheme at Soss Moss special school, Warford, Alderley Edge. S. Dep. £2 2s. each.
Newport (I.O.W.) T.C.—29 houses at Nelson-rd. and Albany-rd. B.S., 38, Quay-st.
Portsmouth T.C.—Mortuary block at infectious diseases hospital. City Architect. Dep. £1 1s.

MAY 6.

***Bedfordshire C.C.**—Police house at Toddington. C.S. Dep. £1 1s.
***Hornsey T.C.**—14 flats, Park-rd., Crouch End. B.E. and S. Dep. £2.
Par.—Extension and alteration of R.A. Drill Hall, for Cornwall Territorial Army Association. P. E. Stephens, architect, Midland Bank-chambs., Falmouth.
***Staffordshire C.C.**—Additions to Alleyne's Grammar School, Stone. Director of Education. Dep. £5 5s.
***Staffordshire C.C.**—Senior school in Station-rd., Great Wyrley. Director of Education. Dep. £5 5s.
***Staffordshire C.C.**—School at Rising Brook. F. A. Hughes. Dep. £5 5s.
Stockport T.C.—Demolition works, etc., at Millgate generating station. Secretary, Electricity Offices, Tiviot Dale.
West Sussex C.C.—School works. C. G. Stillman, (F.), Chichester. Dep. £2 2s. each contract.

MAY 7.

Bromley T.C.—Redecoration and repairs to dwellings. Property Manager.
Huddersfield T.C.—Works at library, Ramsden-st. Library Architect, Ramsden-st.
†Leicester C.C.—Redecoration of schools. W. A. Brockington, Director of Education, Grey Friars.
Manchester T.C.—Extension of The College of Technology, Sackville-st. Director of Education. Dep. £5 5s.
Pickering R.D.C.—Thirteen houses. Henry Smith, architect. Burgate. Dep. £1 1s.
Shropshire E.C.—School at Whitchurch. A. G. Chant (A.), 5, Belmont, Shrewsbury. Dep. £2 2s.

MAY 9.

***Tredegar U.D.C.**—28 houses. S. Dep. £2.
Wembley T.C.—39 flats. Accountant, 117a, High-rd. Dep. £3 3s.

MAY 10.

Biggleswade Water Board.—Dunton pumping station. Binnie, Deacon & Gourley, engineers, Artillery House, Westminster, S.W.1. Dep. £5.
Biggleswade R.D.C.—12 houses, Wrestlingworth. F. C. Levitt, Commerce House, Market-sq. Dep. £2 2s.
Llanidloes T.C.—10 houses at Cwmdu. A. C. James, B.S. Dep. £2 2s.
Monmouthshire C.C.—Houses at Magor and Caldicot. Colin L. Jones (L.), County Architect, County Hall, Newport. Dep. £2 2s.

MAY 11.

Dublin Port and Docks Board.—Repainting of George's Dock, Inner Dock and Royal Canal Dock bridges. E., East Wall. Dep. £1.
Fermanagh E.C.—School at Lisnarick. F. G. Townsend, The Courthouse, Enniskillen. Dep. £5 5s.
Humberstone (Leicester).—Telephone exchange, for H.M.O.W. Room 65D, Third Floor, Office of Works, London, S.W.1. Dep. £1.
***Liverpool T.C.**—110 flats, Portland-st. Director of Housing. Dep. £2 2s.
West Riding C.C.—Painting and repairs to police buildings. West Riding Architect, County Hall, Wakefield.

MAY 12.

Birkenhead T.C.—Cubicle block at Infectious Diseases Hospital, Tollemache-rd. B. Robinson, B.E. and S. Dep. £2 2s. for building and heating work, and £1 1s for electrical work.
***Nuneaton T.C.**—Senior school at Manor-pk. H. J. Ash (A.), 17, Bridge-st. Dep. £3 3s.

MAY 13.

***Dover T.C.**—163 houses or flats and 3 shops and houses combined. B.E. and S. Dep. £2 2s.

MAY 16.

Dover T.C.—Convenience and shelter at Lewisham-rd. and conveniences at Folkestone-rd. and Old Charlton-rd. B.E. and S. Dep. £2 2s.
Ealing T.C.—Painting and decorating at four schools. F. J. Forty, B.E.
***Hexham R.D.C.**—8 houses at Wall. C.
***Ilford T.C.**—School buildings at Lord-av. L. E. J. Reynolds. Dep. £5 5s.
***Lincoln T.C.**—Extension to bus garage. City S. Dep. £2 2s.
***Manchester T.C.**—54 houses, Old Moat-ln. estate. Chairman of Housing Committee. Dep. £2 2s.
***Yorkshire C.C.**—School, etc., at Ecclesfield. Education Officer, Wakefield.

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MAY 17.

Islington B.C.—Installation of ventilation ducts and alterations to hot-water supply system at Caledonian-rd. Baths, N.1. General Superintendent and E., Hornsey-rd. Baths, N.7.

MAY 18.

***Poole Joint Sanatorium Board.**—Sanatorium at Nunthorpe, nr. Middlesbrough. Wm. & T. R. Milburn (FF.), architects, 17, Fawcett-st. Dep. £5 5s.

MAY 19.

***Poplar T.C.**—Electricity showrooms and offices, East India Dock-rd. T.C. Dep. £5 5s.

MAY 24.

Brentford and Chiswick T.C.—Sheds and Workshops at river depot, Corney-rd., Chiswick. L. A. Cooper (L.), B.E. and S. Dep. £2 2s.
***Manchester T.C.**—586 houses, Peel Hall estate, and 40 houses, Matthews-ln. Chairman of Housing Committee. Dep. £2 2s. each.

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APRIL 23.

Surbiton T.C.—B.E. and S.

APRIL 30.

Dukinfield T.C.—B.S.
Northfleet U.D.C.—C.

MAY 2.

Cudworth U.D.C.—S.

ENGINEERING, IRON AND STEEL.

APRIL 29.

Stockport T.C.—Reservoir nr. Longside Plantation. G. H. Hill & Sons, engineers, 51, Mosley-st., Manchester. Dep. £3 3s.

MAY 3.

Dublin T.C.—Reconstruction of Ballybough Bridge. City E., 28, Castle-st., Dublin. Dep. £2 2s.

MAY 4.

Bedford T.C.—Demolition of timber bridge over River Ouse and erection of reinforced concrete bridge. B.E. and S. Dep. £2.

MAY 6.

Cheshire C.C.—Widening and reconstruction of bridge carrying Hollingworth-Woodhead-rd. over Freshwater Aqueduct, Woodhead. G. E. Ashforth, C.S. and Bridgemaster, Watergate House, Watergate-st., Chester. Dep. £2 2s.
Cheshire C.C.—Extension of bridge carrying Lower Withington-Hulme Walfield-rd. over Midgebrook. G. E. Ashforth, C.S. and Bridgemaster, Watergate House, Watergate-st., Chester. Dep. £2 2s.
Cheshire C.C.—Widening of Greenhall Bridge, carrying Stockport-Altrincham-rd. over Micker Brook, Gatley. G. E. Ashforth, C.S. and Bridgemaster, Watergate House, Watergate-st., Chester. Dep. £2 2s.

MAY 16.

Dover T.C.—Works in connection with Folkestone-rd. and Priory Bridge improvement, and trunk road, London-Folkestone-Dover-rd. W. B. Smith, B.E., Maison Dieu House. Dep. £2 2s.

JUNE 20.

South Africa.—Steel bridgework, for Railways and Harbours Administration. Department of Overseas Trade, 35, Old Queen-st., S.W.1. Tender No. 1722.

ROAD, SEWERAGE AND WATER WORKS.

APRIL 27.

Blackwell R.D.C.—Stoneware pipe sewer. A. H. Elliott, Gilcroft-chams., Church-la., Mansfield. Dep. £2 2s.
Bognor Regis U.D.C.—Surface dressing of roads. S.
Colwyn Bay T.C.—Road surface dressing. W. J. Dunning, B.E. and S.
Ealing T.C.—Piping-in water course at Haddenway, Greenford. F. J. Forty, B.E. Dep. £1 1s.
Esher U.D.C.—Construction of Tilt-rd., Cobham. S. Dep. £3 3s.
Herne Bay U.D.C.—Road work. B. J. Wormleighton, E. and S.
New Windsor T.C.—Sewers.—F. N. McRae, B.E., 16, Alma-rd. Dep. £2 2s.
Norman Cross R.D.C.—Water works. G. B. Kershaw & Kaufman, engineers, 9, Victoria-st., London, S.W.1. Dep. £5.
Paddington B.C.—General works to sewers. W. F. Abbiss, T.C. Charge 2s. 6d.
Prestwich U.D.C.—Making-up of Park-av. Handel Kay, E. and S. Dep. £1 1s.
Rickmansworth U.D.C.—Sewer and pumping main. Sandford Fawcett & Ptnrs., engineers, 53, Victoria-st., Westminster, S.W.1. Dep. £3 3s.

APRIL 28.

Burton-upon-Trent T.C.—Road and sewers at Roslington-rd. housing site (extension). B.E. and S.
King's Lynn T.C.—Sewers. J. C. Matthew, B.E.
Leeds T.C.—Street works. Highways E., 155, Kirkstall-rd. Dep. £1 1s.
Leven T.C.—Sewers. Bruce & Proudfoot, 63, Nicol-st., Kirkcaldy. Dep. £2 2s.

Limerick Board of Health.—Extensions to sewerage system, Newcastle West. P. J. Sheahan, E., 47, O'Connell-st., Limerick.

Malden and Coombe T.C.—Outfall culvert to Coombe Brook, Coombe-rd. A. R. Goldthorp, B.E., Municipal Offices, New Malden.

Southend-on-Sea T.C.—Playground at Hinguar-st., school, Shoeburyness. Frank W. Smith, architect. Dep. £1.

APRIL 29.

Belper R.D.C.—Reconstruction of sewage disposal works, Duffield. Sands & Walker, consulting engineers, Milton-chams., Nottingham. Dep. £3.

Durham R.D.C.—Sewerage works at Cassap Colliery. Taylor & Walling, engineers, 1, Saville-pl., Newcastle-upon-Tyne. Dep. £5.

Newbury T.C.—Street works. B.S.

APRIL 30.

East Barnet U.D.C.—Surface dressing of roads. C. M. Barnes, E. and S.

Havant and Waterloo U.D.C.—Street works. W. L. Hibberd, E. and S. Dep. £2 2s

Lichfield T.C.—Reconstruction of part of Bore-st. and Tamworth-st. Leslie Straw, City E. and S. Dep. £2.

Orpington U.D.C.—Street improvement works. Thomas Watson, E. and S. Dep. £3 3s

Southwick U.D.C.—Tarspraying. Geo. W. Warr. S.

Turton U.D.C.—Sewering works at Tottington-rd., Harwood. Reginald Dart, S. Dep. £2 2s.

Worsley U.D.C.—Street works. James Howard, E. and S. Dep. £2 2s.

MAY 2.

Aylesbury T.C.—Road works on California housing estate. W. H. Taylor, B.E. and S. Dep. £2 2s.

Cheshire C.C.—By-pass and widening existing road at Mobberley. G. E. Ashforth, C.S. and Bridgemaster. Dep. £5 5s.

Chigwell U.D.C.—Street works. G. Holbourn, E. and S. Dep. £4 4s.

Glastonbury T.C.—Sewerage extensions. Major W. Herbert Bateman, M.C., Batheaston, Bath. Dep. £2 2s

Hertford T.C.—Water mains at Ware-rd. B.S. and E. Dep. £2 2s.

Rayleigh U.D.C.—Street works. E. and S. Dep. £2 2s.

Wolverhampton T.C.—Surfacing work in Lichfield-st. and Victoria-sq. H. B. Robinson, B.E.

MAY 3.

Amesbury R.D.C.—Water supply works at Shrewton. Lemon & Blizard, consulting engineers, Lansdowne House, Castle-ln., Southampton. Dep. £5 5s.

Barnet U.D.C.—Making-up of Kenerne-drive. S., Ravenscroft House, Wood-st.

Droylsden U.D.C.—Street works. S.

Merioneth C.C.—Road widening works at Glan-y-pwll, Blaenau Festinog. H. E. Davies, C.S., County Offices, Dolgelley. Dep. £3 3s.

Sunderland T.C.—Sewer at Grangetown. B.E. Dep. £5 5s.

MAY 4.

Carshalton U.D.C.—Removal of section of abandoned tram-track and reconstruction of Ringstead-rd. and Westmead-rd. Reginald S. Davey, Stone Court, The Grove. Dep. £2.

Coulsdon and Purley U.D.C.—Sewers at Coulsdon and Hooley. S.

Luton T.C.—Works in Shelley-rd. J. W. Tomlinson, B.E. and S. Dep. £2 2s.

MAY 5.

East Barnet U.D.C.—Street works. C. M. Barnes, E. and S.

MAY 9.

Billericay U.D.C.—Extension of Timberlog-ln. sewer. Willcox, Raikes & Marshall, engineers, 33, Great Charles-st., Birmingham, 3. Dep. £2 2s.

Lancashire C.C.—Surfacing on Formby by-pass. P. Schofield, County S. and Bridgemaster, County Offices, Preston. Dep. £5 5s.

MAY 11.

Middlesex C.C.—Extension of Greenford-rd. from Harrow-rd. to Watford-rd. C.E., "T.2," 16, Great George-st., Westminster, S.W.1. Dep. £5 5s.

MAY 12.

Birmingham T.C.—Reconstruction of Rea main sewer from Macdonald-st. to Sir Harry's-rd. H. J. Manzoni, City E. Dep. £2.

MAY 14.

Horsforth U.D.C.—Waterworks in four contracts. Jas. E. Aldersley, E., Horsforth Hall. Dep. £3.

Lewes T.C.—Construction of reinforced concrete (Hennebique system) bastion and suspended roadway at Landport estate. C. T. Butler, B.S. Dep. £2 2s.

MAY 16.

Cuckfield R.D.C.—Sewerage and sewage disposal scheme. A. Hutchings, E. and S., Rural Council Offices, Boltro-rd., Haywards Heath. Dep. £2 2s.

Public Appointments.

APRIL 25.

Worcester T.C.—Clerk of Works. T.C.

APRIL 26.

Monmouthshire E.C.—Quantity Surveyor. Secretary, Newport, Mon.

APRIL 27.

Deptford B.C.—One Engineering and one Architectural Assistant. T.C., New Cross, S.E.14.

***Hove T.C.**—Architectural Assistant. T.C.

***Walthamstow T.C.**—Building Works Manager. T.C.

APRIL 28.

Nottingham T.C.—Chief Quantity Surveyor. E. and S.

APRIL 29.

***Derbyshire C.C.**—Architectural Assistant. J. Harrison, County Architect.

Hull T.C.—Architectural Assistant (Temp.). City Architect.

***Rochdale T.C.**—Architectural Assistant (Temp.). B.S.

APRIL 30.

Exeter.—Dean and Chapter. J. W. Waddingham, Chapter Clerk.

Kirkcaldy T.C.—Clerk of Works. T.C.

Somerset T.C.—County Architect. Harold King, C., Taunton.

***Southwark B.C.**—One Senior and one Junior (Temp.) Architectural Assistants. T.C., Walworth-road, S.E.17.

West Riding of Yorkshire C.C.—Junior Architectural Assistant. County Architect, Wakefield.

***Whitby U.D.C.**—Planning Assistant. E. and S.

MAY 2.

Bootle T.C.—Assistant Building Inspector. B.E. and S.

MAY 3.

***Middlesex C.C.**—Teacher of Painting and Decorating. Principal, Tottenham Polytechnic, N.15.

***Plymouth T.C.**—Two Architectural Assistants (Temp). City Architect.

MAY 4.

***Halifax T.C.**—Senior Architectural Assistant. B.E.

MAY 6.

Cape Town.—Instructor. J. A. Ewing & Co. (London), Ltd., 73-4, Chiswell-st., London, E.C.1.

MAY 7.

***Leeds T.C.**—Quantity Surveyor. Director of Education.

MAY 9.

***Barking T.C.**—Two Engineering Assistants. B.E. and S.

MAY 14.

London C.C.—Visiting Teachers. Education Officer (T.1), County Hall, S.E.1.

MAY 16.

***Portsmouth T.C.**—Two Senior and three Junior Architectural Assistants. City Architect.

MAY 18.

Lanark C.C.—Town Planning Assistant. R. B. Walker, C., 191, Ingram-st., Glasgow.

NO DATE.

London.—Clerk of Works (Temp.). Police Architect and Surveyor, New Scotland Yard, S.W.1.

***London.**—Two Architectural and Engineering and one Mechanical and Electrical Engineering Assistants for Singapore. Secretary (W.9), Air Ministry, Adastral House, W.C.2.

LAYING OF MAGNESITE COMPOSITION

THE Building Industries National Council has just issued a "Code of Practice for the Laying of Magnesite Composition Flooring and Dadoes." This represents yet a further step in the modification of trade practices on the basis of minimum requirements now being carried out by the Council. During its preparation the Board of Trade was brought into consultation with respect to the use of this material in ships and railway vehicles.

Mr. H. J. Holloway, in a foreword, says that the object of the Codes of Practice issued by the B.I.N.C. is to ensure, as far as possible, that throughout the entire country nothing less than the highest possible standard of craftsmanship and building technique shall prevail, and it is the intention that the standard set shall be such as to justify their becoming, in due course, accepted both as the standard of satisfaction required under the Ministry of Health Model By-laws and as the standard to be applied by every local authority in the administration of by-laws and in judging whether they have been complied with.

The "Code of Practice for the Laying of Magnesite Composition Flooring and Dadoes" forms an important addition to the Council's series. The Panel have been fortunate in being able to adopt as a basis the work of the Advisory Committee appointed by the Building Research Board to review and complete recommendations originally formulated by the Jointless Flooring (Oxychloride) Association.

It is hoped that in the interests of progressive national standards of building, members of the industry will use the Code as the basis both for the specification of work and its actual execution.

Copies may be obtained, price 1s. 3d. each, from 5, Duke-street, Adelphi, W.C.2.

CURRENT AND PROPOSED BUILDING WORK*

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Where business representatives cannot be seen personally at this stage, this should be mentioned. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Wednesday morning.

Aldridge.—U.D.C. approved plans for 230 houses, Bridle-ln. and Aldridge-rd., Streetley, for Eborall Estates, Ltd.

Barrow-in-Furness.—T.C. approved:—40 semi-detached houses on new street off west side of Friars-ln., for Styles & Bates, Ltd.; sports stadium, Old Griffin-works site, Dorset-st., Barrow Sports Stadium, Ltd.

Birmingham.—Premises of Midland "Red" Motor Omnibus Co., Bull Ring, to be demolished to make way for shops and showrooms.

Caterham and Warlingham.—U.D.C. approved:—Block plan, houses, plots 79 to 86, Hillbury-rd., Sunnyside estate, Warlingham, R. J. Clarke & Co. —Drainage plans passed:—A. Wheal, 4 pairs of bungalows, 19-26, Ninehams-close, Caterham.—Council propose following work during next six months:—Annexe to conference hall, £340; alterations in finance department, £400; extensions of the north-east wing of council offices, £1,500, and alterations in surveyor's and public health departments, £122.

Cheltenham.—T.C. approved:—Western Estates, Ltd., lay-out for 48 semi-detached and 4 detached houses, Brooklyn-rd.; Elmfield Park Estate Co., Ltd., lay-out and 32 houses, Swindon-rd

Chesterfield.—T.C. approved:—Rebuilding "Industry Inn," Queen-st., for Brampton Brewery Co., Ltd.; extension to schools, Cross-st., Trustees of Roman Catholic Church; 71 houses, Highbury estate, A. Heath; rebuilding of Institute, Station-ln., Old Whittington, Old Whittington Miners' Welfare Committee.

Consett.—Plans by J. Hedley Simson, Grainger-st., Newcastle, approved for dance hall and shops in Front-st.

Corringham (Essex).—U.D.C. approved plans for 21 pairs bungalows, for R. J. Emerey.

Coventry.—T.C. approved:—Factory, Torrington-av., Randle Radiators, Ltd.; 26 houses, Mapleton-rd., C. P. Jones; 22 houses, Woodstock-rd., R. Wood; 10 houses, Elkington-st., and 14 houses, Simon Stone-st., Bayliss Bros.; sports pavilion off Second-av., General Electric Co., Ltd.; 28 houses, Hermit's Croft, 12 houses, St. Christian's Croft, and 18 houses, John Grace-st., and 10 houses, St. Christian's-rd., A. E. Gilks; 27 houses (amended), Rothesay-av., S. Sutton; extension to factory, off Station-av., Fisher & Ludlow, Ltd.; 32 houses, Burnaby-rd. (corner of Treherne-rd.), Garlick, Ltd.

Coulsdon and Purley.—U.D.C. approved:—Stanford & Co., 44 houses, Queenhill Shaw estate; Nautilus Building & Decoration Dept., of Davis Gas Stove Co., Ltd., showroom and shops, Brighton-rd., Coulsdon.

Croydon.—C.B. to invite tenders for new messroom at power station boiler-house.—Council to accept tender for concrete cooling tower, culverts and penstocks. Estimated cost, £24,400.—Tenders to be invited for fencing work at Shirley recreation ground.—M.H. sanctioned for Norbury Manor School, alterations and additions, borrowing of £9,190, and for Mayday Hospital laundry extensions, building works, £3,435.—Plans passed:—W. Henderson, St. John's-rd., South Norwood, S.E.25, extension to film laboratory, St. John's-rd., South Norwood; Burcote, Ltd., 250, Wickham-rd., Shirley, Croydon, 2 shops with rooms over, 580 and 582, Wickham-rd., Addington; H. & C. Davis & Co., Ltd., 1, The Pavement, Clapham, S.W.4, steel-framed building, 160, London-rd., Broad Green; W. Cullen & Sons, Ltd., 44, Westow-st., Upper Norwood, S.E.19, workshops, Victory-pl. (north side), Westow-st., Upper Norwood; E. Bates & W. G. Sinning, 27, Queen Victoria-st., E.C.4, workshop, 42b, Cherry Orchard-rd., Addiscombe; Progress Building, Ltd., p.p. E. Schaufelberg, 106, Jermyn-st., S.W.1, alterations and additions, "South London House," corner of High-st. and Mason's-av.

Dewsbury.—T.C. approved:—Rebuilding Prudential Buildings, Market-pl., Prudential Assurance Co., Ltd., Holborn, E.C.1.

East Ardsley.—Leeds and Wakefield Brewery Co., Ltd., Melbourne Brewery, Leeds, propose rebuilding "Bulls Head Inn." Architect, J. P. Firth (A.), Chancery-chams., Barstow-st., Wakefield.

Elmdon.—J. B. Surman (F.), 19, Cannon-st., Birmingham, 2, architect for airport hotel for Mitchells & Butlers, Ltd., Cape Hill Brewery, Smethwick.

Gainsborough.—R.D.C. raising £22,000 loan for 47 houses in Gainsborough district.

Gateshead.—Extensions proposed to clothing factory, Catherine-terr. and The Crescent, for Jacksons (The Tailors), Newcastle-on-Tyne. Architects, S. J. Stephenson & Gillis, 2, Saville-pl., Newcastle-on-Tyne.

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* See also List of Contracts Open.

***** In these lists every care is taken to ensure that information given is accurate and up to date, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been usually commenced. List of abbreviations on page 808.**

Gateshead.—Plans approved by T.C. for 13 factories and extensions to two factories on Team Valley Trading Estate, for N.-E. Trading Estates, Ltd.

Hebburn-on-Tyne.—Premises proposed in Vimy-av., for Hebburn Conservative Party. Architects, T. A. Page, Son & Bradbury, 75, King-st., South Shields.

Hertford.—T.C. approved: Alterations to existing buildings for laundry, Brewhouse-ln., Hertford, A. Scales, Hertingfordbury-rd., Hertford.

Houghton-le-Spring.—Hetton Race Co. propose greyhound stadium at racecourse. R. W. Magee, "Beeches," Hall-ln., Houghton-le-Spring, secretary.

Hove.—Plans approved:—Block of 54 flats, 3-5, Grand-av., South Farm Road Co., Ltd. (Murrell & Piggott, architects); temporary garage, Nevill-av., at Hangleton-rd., for Bognor Motors, Ltd. (H. L. Ford, architect).

Hull.—Blackmore & Sykes, architects, 31, Scale-ln., preparing plans for extensions to Hornsea War Memorial Cottage Hospital.

Leeds.—Plans approved by Corporation for block of public conveniences adjoining Spring Bank Residential Nursery, Headingley, fronting Otley-rd. Tenders to be invited.—Corporation acquired site at Tinshill-ln., Cookridge, for school.—Plans also prepared for junior and infants' school at Farnley to accommodate 350 children

Leek.—W. Ingham, architect, Stockwell-st., is preparing plans for extensions to dairies, Buxton-rd., for Adams Wholesale Dairies, Ltd., Buxton-rd.

Leicester.—Board of Royal Infirmary instructed architect to prepare plans of proposed additions to out-patients' department, estimated at £15,500.

Leicester.—Reed & Sigrist, Ltd., 7, Elementary and Flying Training School, Desford, propose aircraft factory at Braunstone. Plans by Adie, Button & Ptnrs., 30, George-st., Hanover-sq., London, W.1.

Liverpool.—Vernons Pools, Ltd., Aintree, propose factory buildings, Speke, nr. Liverpool. Ormord & Banister, architects, 66, Rodney-st.—Corporation approved:—95, tenements, Mill-st., 35, Warwick-st., 20, Hyslop-st., 16, Christian-st., 24, Gerard-cres., 30, in proposed 120-ft. road, 54, Latimer-st., and 54, Limekiln-la., Corporation; 19 houses, Paignton-rd., O. Williams & Sutcliffe, for J. Lloyd Jones & Son; house and branch post office, 90, Vauxhall-rd., C. V. Dawbarn, for Mrs McGoff; additional story to bottling store, Trueman-st., Medcalf & Medcalf, for Threlfalls Brewery Co., Ltd.; school building, Stonebridge-la., Corporation; addition to Church of St. Francis, Harp-st., Hill, Sandy & Norris, for Rev. J. J. Noblet, P.P.; 3 shops, 3 houses and bakery, Mill-st., T. Wainwright & Sons, for G. W. Johnson & Sons; 4 houses and shops, Booker-av., Richard Owens & Son, for Owens & Owen; extension to factory, Cunliffe-st., and Cheapside. Campbell, Honeyburne & Sumner, for Peerless Refining Co., Ltd.; alteration to form motor car showrooms, 45-47, Renshaw-st., 7, Benson-st., 34 to 42, Mount Pleasant, Pickfords Surveyors Dept., for Garlick, Burrell & Edwards, Ltd.; synagogue, Laurel-rd., R. G. Tyrer, for Fairfield Hebrew Congregation; motor car service station and cloakroom, etc., Myrtle-st., Sugnall-st., Caledonia-st., R. S. Nickson, for Cheshire Bros., Ltd.

Macclesfield.—Managers of St. Alban's day school proposing senior school. Plans by Whittaker & Bradburn, architects, 62, Chestergate, Macclesfield.

Marlbrook.—Showell's Brewery Co., Ltd., Station-st., Burton-on-Trent, propose hotel, junction of Birmingham-rd. and Lickey-rd. Architects, Hawkes & McFarlane, Lombard House, Great Charles-st., Birmingham.

Middlesbrough.—Scheme for central emporium in Clifton-st. for Middlesbrough Co-operative Society approved. Plans by C.W.S. Architects' Dept., 90, Westmoreland-rd., Newcastle-on-Tyne.

Middlesbrough. — T.C. approved:—20 houses, Exeter, Winchester and Westminster-rds., Linthorpe, for A. Cubitt.

Midfleton.—Church Day Schools' Association propose school for 320 senior scholars (mixed).—T.C. approved plans for lay-out and 32 houses, Brassey-st., Lord-st. and Wagstaff-st., D. Rees, 19, Dartmouth-rd., Chorlton-cum-Hardy, Manchester.

Newcastle-on-Tyne.—Melville & Sons propose factory. W. Dixon & Son, 1, Collingwood-st., architects.

Newcastle-upon-Tyne.—Pilgrim Property Trust purchased Church of Divine Unity, New Bridge-st., for demolition, and to erect offices and shops on site.

Newchurch-in-Rossendale.—Miners' Welfare Central Fund Committee propose pithead baths at Nabb Colliery. J. H. Forshaw (F.), architect, Romney House, Marsham-st., London, S.W.1.

Northampton.—Board of Management of Manfield Orthopædic Hospital proposing ward block with 40 beds, at £12,000. Architect, F. H. Allen (F.), 24, Albion-pl.

Nottingham.—Additional row of stalls to be provided in new wholesale market, at £2,800, for T.C.

Nuneaton.—T.C. approved:—J. Arnold, warehouse, rear of 42, Abbey-st.; P. H. Faulkner, petrol service station, "Cecil House," Hinckley-rd.

Preston.—Board of Management of Preston Royal Infirmary proposing Orthopædic wards and extensions to Albert Ward. Plans by A. C. M. Lillie (L.), architect, Dowry House, Brown Edge, Bamber Bridge.

Preston.—T.C. approved:—W. Stirrup (N.E. Lancashire Co-operative Dairies Association, Ltd.), milk depot, Bloomfield Mill-st.; R. L. Dilworth, 38 houses, Sulby-dr.; A. C. M. Lillie (J. A. Leach & Co.), 42 houses, Fletcher-rd. and off Deepdale Mill-st.; H. Walters (J. Cartmell & Sons, Ltd.), warehouses and Crook-st.

Reigate.—T.C. approved:—Hall for British Red Cross Society, London-rd., Reigate, Lt.-Col. F. J. Spranger, O.B.E., J.P. (on behalf of British Red Cross Society); new bank and offices, Church-st., Barclays Bank, Ltd.

Rotherham.—T.C. approved:—Doncaster Supply Stores, Ltd., Howard-st., showrooms and warehouse; D. Dunk, new street off Wellgate, 106 houses.

Rugby.—Managers of St. Matthews propose senior school for 320 boys.

St. Helens.—Biram & Fletcher (FF.), architects, 17, George-st., appointed to prepare plans for council school at Haresfinch, for E.C.

St. Pancras.—B.C. approved:—Rebuild 7-11, Fitzroy-mews; rebuilding 114-120, Arlington-rd.; rebuilding of premises adjoining 20, Leighton-rd. as showrooms, stores and offices; building upon site, corner of Great College-st. and Pratt-st.; rebuilding of "The Phœnix" public-house, 408, Euston-rd.; extension to garage and factory at 185-187, Drummond-st.

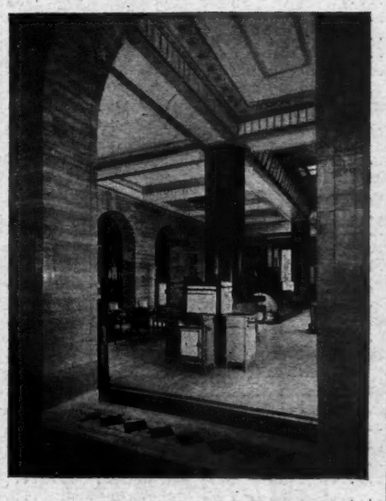
Salford.—Catholic Authorities propose school, junction of Leicester-rd. and Tetlow-ln. for senior departments, for St. Thomas of Canterbury. Plans by H. Greenhalgh, architect, 15, Mawdesley-st., Bolton.

Sheffield.—Milner & Craze, 5, Racquet-court, Fleet-st., London, E.C.4, architects for new St. Paul's Church on Arbourthorne estate, for Sheffield Diocesan Board.—Methodist Trustees of Shiregreen Church propose Sunday school, Hatfield House-ln.—Plans approved by T.C.:—Chapel and Sunday school, Ellesmere-rd., Grimesthorpe-rd. and Lyons-st., Church of Jesus Christ of Latter Day Saints Trustees; flat, maternity and child welfare clinic and relief station, Ridgeway-rd., T.C.; machine shop, Savile-st. East; shop, Carlisle-st. East and Forncett-st., Thos. Firth & John Brown, Ltd., Atlas Works; development of land, Staniforth-rd. and Shirland-la., Fowler & Marshall, surveyors, 3, Hartshead; workshop extensions, Vulcan-rd., Edgar Allen & Co., Ltd., Imperial Steelworks; Turner & Harrison, Ltd., Firvale Garage, 463, Barnsley-rd., propose petrol filling station and garage on Herries-rd.

Sheffield.—T.C. approved:—22 or 24 houses and conversion of "Lynwood" to flats at Clarkehouse-rd., Fowler & Marshall; 101 houses at Darnall-rd., H. Haywood; 40 houses at Studfield Hill, J. Copley & Sons, Ltd.; 24 houses at Sundown-rd., E. & H. Oliver; 38 houses, Norton Lees-sq., F. B. Skinner & Sons, Ltd.; 22 houses, Gleadless-av. and Gleadless-dr., W. Redmile.

Shipston-on-Stour.—G. E. Boshier, High-st., Stratford-on-Avon, architect for extensions to Ellen Badger Hospital, for Trustees.

South Shields.—G. R. Smith & Partners, Winchester-st., architects for proposed amusement arcade, for R. B. Whally.



RADIANT HOUSE
LIVERPOOL
ARCHITECTS: QUIGGIN & GEE FERLEA

MARBLE & QUARZITE

JOHN STUBBS
MARBLE & QUARZITE LTD

South Shields.—It is proposed to extend premises of Jarrow and Hebburn Co-operative Society at Westoe, and also to provide several new departments. G. C. Young, Grange-rd. West, Jarrow, architect.—T.C. approved:—Marshall Tweedy & Bourn, for Tyne Improvement Commissioners, traffic offices, Stake-ter., Tyne Dock; T. A. Page, Son & Bradbury, for Wm. McEwan & Co., Ltd., proposed residential hotel at Marsden, junction of Marsden-rd., Redwell-ln., Lizard-ln. and Prince Edward-rd. East; Thompson, on own behalf, proposed rebuilding of "Mat" on new site in Amusement Park, South Foreshore; T. A. Page, Son & Bradbury, for A. J. Wares, Ltd., proposed warehouse in Queen-st. (adjoining King-st. shop).

Stourbridge.—A. & J. Mucklow, builders, 21, High-st., Blackheath, Birmingham, propose 63 houses on Wollaston Farm estate.—Governors of King Edward VI Grammar School proposing buildings at £17,700.

Sunderland.—Plans for houses and shops in Sea-rd., etc., for T. Veti being prepared by W. & T. R. Milburn, 17, Fawcett-st.—Approval given to plans for modern hotel in Sunderland-rd., Southwick, for J. Denchar, Ltd., Newcastle. Architects, W. & T. R. Milburn.—Plans prepared by W. & T. R. Milburn for lay-out of roads and sewers at High Barnes, Grindon, for Public Trustee.—Stephenson & Gillis, 2, Saville-pl., Newcastle-on-Tyne, prepared plans for alterations to Theatre Royal, Bedford-st., for H. Oswang, of Sunderland.—Haig Homes Fund, 6, Duke-st., London, S.W.1, to erect 20 homes on Springwell Farm estate. Architect, H. P. G. Maule, 12, Stratford-pl., London, W.1.

Swansea.—B.E. submitted plans and estimates of scheme for diversion of Pontardulais-rd. and reconstruction of Cadle bridge.—Plans passed: Repair works, Mynydd Newydd-rd., South Wales Transport Co.

Tynemouth.—T.C. approved plan for factory on West Chirton estate, to cost £8,200.

Walton and Weybridge.—U.D.C. asked S. to prepare plans and invite tenders for garage, messrooms, shower baths and workshop in connection with proposed refuse disposal works.

Wembley.—T.C. approved:—Celotex, Ltd., factory and extension to factory, Beresford-av.; R. H. Curner, sewers and 22 houses, Woodgrange-cl.; H. Kenchington, amended drainage plan of flats, Wembley Hill-rd.; Rev. F. McGrath, presbytery, Barnhill-rd.; Aston Construction Co., steelwork details for foundations to shop, Preston-rd.; J. Laing & Son, drainage plan of factory, Honeypot-ln., and factory, Carlisle-rd.; R. Chambers, additions to gospel hall, Ealing-rd.; B.O.C., extension to test shop and covered way, East-ln.; Salmon Estates, Ltd., layout 18 houses, 123-157, Salmon-st.; Fishers Foils, extension to drawing office, B.E.R.; B. R. Ewen, Ltd., 4 shops and flats, Ealing-rd

Wolverhampton.—T.C. approved:—T. A. & B. E. Hughes, Trysull-rd., Bradmore, 4 houses and shops; W. G. Darby, off Pinfold-ln., 32 houses, amended lay-out; Read Engineering Co., Dixon-st., factory; Mander Bros., Ltd., Old Heath-rd., warehouse; E. A. Colman, roads No. 1, 4 and 6, Bake Gate Farm estate, 73 houses.

Worcester.—E.C. approved: Community centre for Brickfields, Tolladine-rd. housing estates, at £6,000; and school, to cost £24,000, in Battenhall-rd.

Wrexham.—Miners' Welfare Central Fund Committee propose pithead baths at Gresford Colliery. Architect, J. H. Forshaw (F.), Romney House, Marsham-st., London, S.W.1.

Yarmouth.—T.C. submitted to M.H. scheme for 104 flats to accommodate 424 persons and 94 maisonnettes to accommodate 425 persons, at £9,500.

York.—T.C. approved:—Ainsty Building Estates, Ltd., 36 houses, Forest-way estate; Holly Bank Estate Co., Ltd., 66 houses, Holly Bank estate.

Location of Industry Inquiry.

The Federation of British Industries, which gave oral evidence before the Royal Commission on the Geographical Distribution of the Industrial Population on March 30, has issued the written evidence which was submitted by the Federation. Some interesting statistics and conclusions are given, and in regard to the proposal that an arbitrary limit to the establishment of factories in the Metropolitan area should be set, the following observations are made: "From the industrial point of view, to attempt to overcome these disadvantages by arbitrary interference with the freedom of the individual industrialist to select the location of his factory is open to the gravest objections. It would tend to involve, amongst other things, the favouring or the penalising of one manufacturer as against another in a competing industry and the compulsory erection of factories in localities which from the paying point of view were unsatisfactory, so that the factories could not be maintained in operation for more than a short time in a competitive market unless subsidised in some form or another. It might also result in plans for the establishment of new factories being entirely abandoned. In general it would necessitate dictation on a matter on which experience has shown it would be highly dangerous to dictate."

RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 1st FEBRUARY, 1938.

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.]

	Crafts-men.	Lab-ourers.		Crafts-men.	Lab-ourers.		Crafts-men.	Lab-ourers.		Crafts-men.	Lab-ourers.
Aberavon	1/7½	1/2½	Clitheroe	1/7½	1/2½	Isle of Wight	1/4½	1/0½	Sawbridgeworth	1/5½	1/1½
Aberdare	1/7	1/2½	Cobham (Surrey)	1/6½	1/2	Keighley	1/7½	1/2½	Saxmundham	1/3½	11½
Abergavenny	1/7	1/2½	Colchester	1/6½	1/2	Kenilworth	1/7½	1/2½	Scarborough	1/7	1/2½
Abingdon	1/6	1/1½	Colwyn Bay	1/6½	1/2	Kettering	1/7	1/2½	Scunthorpe	1/7½	1/2½
Accrington	1/7½	1/2½	Congleton	1/7	1/2½	Kidderminster	1/6½	1/2	Selby	1/7½	1/2½
Aldeburgh	1/3½	11½	Coventry	1/7½	1/2½	King's Lynn	1/5	1/0½	Sevenoaks	1/6	1/1½
Aldershot	1/5½	1/1½	Cranbrook	1/5	1/0½	Kirkham	1/7½	1/2½	Sheerness	1/5	1/0½
Alfreton	1/7½	1/2½	Cranleigh	1/5½	1/1½	Knowle	1/7	1/2½	Sheffield	1/7½	1/2½
Alnwick	1/7	1/2½	Crawley	1/5½	1/1½	Lancaster	1/7½	1/2½	Shipley	1/7½	1/2½
Altrincham	1/7½	1/2½	Crewe	1/6½	1/2	Leamington	1/7½	1/2½	Shoeburyness	1/7	1/2½
Amble	1/7	1/2½	Cromer	1/4½	1/0½	Leatherhead	1/6½	1/2	Shoreham	1/6½	1/2
Amersham	1/6	1/1½	Crowborough	1/5½	1/1½	Leeds	1/7½	1/2½	Shrewsbury	1/6½	1/2
Ammanford	1/7½	1/2½	Cuckfield	1/5½	1/1½	Leicester	1/7½	1/2½	Sittingbourne	1/5	1/0½
Andover	1/5½	1/1½	Darlington	1/7½	1/2½	Leighton Buzzard	1/4½	1/0½	Skegness	1/6½	1/2
Ardingley	1/5½	1/1½	Darwen	1/7½	1/2½	Letchworth	1/6	1/1½	Sleaford	1/6	1/1½
Arundel	1/5½	1/1½	Daventry	1/6	1/1½	Lewes	1/5½	1/1½	Slough	1/6½	1/2
Ascot	1/5½	1/1½	Deal	1/5	1/0½	Lichfield	1/6½	1/2	Southampton	1/7	1/2½
Ashby-de-la-Zouch	1/6	1/1½	Denbigh	1/6	1/1½	Lincoln	1/7½	1/2½	Southend-on-Sea	1/7	1/2½
Ashford (Kent)	1/5	1/0½	Derby	1/7½	1/2½	Littlehampton	1/5½	1/1½	Southport	1/7½	1/2½
Ashford (Middlesex)	1/7½	1/2½	Devizes	1/4*	1/0	Liverpool	‡§1/8½	¶	South Shields	1/7½	1/2½
Ashington	1/7	1/2½	Dewsbury	1/7½	1/2½	Llandudno	1/6½	1/2	Spalding	1/5½	1/1½
Ashtead	1/7½	1/2½	Didcot	1/5½	1/1½	Llanelly	1/7½	1/2½	Stafford	1/7	1/2½
Ashton-under-Lyme	1/7½	1/2½	Diss	1/4	1/0	London—			Staines	1/6½	1/2
Aylesbury	1/5½	1/1½	Doncaster	1/7½	1/2½	12 m. radius	1/9*	1/3½	Stamford	1/6½	1/2
Aylsham	1/4½	1/0½	Dorchester	1/5*	1/0½	12-15 m. radius	1/8½*	1/3½	Stevenage	1/6	1/1½
Bagshot	1/5½	1/1½	Dorking	1/6	1/1½	Long Eaton	1/7½	1/2½	Stockport	1/7½	1/2½
Banbury	1/5½	1/1½	Dover	1/5	1/0½	Longton	1/7½	1/2½	Stockton-on-Tees	1/7½	1/2½
Barnsley	1/7½	1/2½	Dovercourt	1/5½	1/1½	Loughborough	1/7½	1/2½	Stoke-on-Trent	1/7½	1/2½
Barnstaple	1/5½	1/1½	Driffield	1/6	1/1½	Louth	1/6	1/1½	Stourbridge	1/7	1/2½
Barrow-in-Furness	1/7½	1/2½	Droitwich	1/6½	1/2	Lowestoft	1/5½	1/1½	Stourport	1/6½	1/2
Barry	1/7½	1/2½	Dudley	1/7½	1/2½	Luton	1/7	1/2½	Stowmarket	1/4	1/0
Basingstoke	1/5½	1/1½	Dunstable	1/5½	1/1½	Macclesfield	1/7	1/2½	Stratford-on-Avon	1/6	1/1½
Bath	1/6½	1/2	Durham City	1/7½	1/2½	Maidenhead	1/6	1/1½	Stroud	1/6†	1/1½
Batley	1/7½	1/2½	Eastbourne	1/6½	1/2	Maidstone	1/6	1/1½	Sunderland	1/7½	1/2½
Beaconsfield	1/6	1/1½	E.Glam. (Mon. Val.)	1/7	1/2½	Malvern	1/6	1/1½	Sutton Coldfield	1/7½	1/2½
Beccles	1/4	1/0	East Grinstead	1/5½	1/1½	Manchester	1/7½	1/2½	Swaffham	1/3½	11½
Bedford	1/6½	1/2	Edenbridge	1/5½	1/1½	Manningtree	1/4	1/0	Swanage	1/5½*	1/1½
Berkhamsted	1/5	1/0½	Ely	1/4	1/0	Mansfield	1/7½	1/2½	Swansea	1/7½	1/2½
Berwick	1/7	1/2½	Epping	1/7½	1/2½	March	1/4½	1/0½	Swindon	1/6*	1/1½
Beverley	1/7½	1/2½	Exeter	1/6½†	1/2	Margate	1/5	1/0½	Tamworth	1/7	1/2½
Bexhill-on-Sea	1/5½	1/1½	Exmouth	1/5½	1/1½	Market Harborough	1/6½	1/2	Taunton	1/5½	1/1½
Bideford	1/5½	1/1½	Fakenham	1/4	1/0	Matlock	1/6	1/1½	Tenterden	1/5	1/0½
Biggleswade	1/5	1/0½	Falmouth	1/6	1/1½	Melton Constable	1/3½	11½	Thames Haven	1/7½	1/2½
Billericay	1/5	1/0½	Fareham	1/6½	1/2	Melton Mowbray	1/6½	1/2	Thetford	1/4	1/0
Birchington	1/5	1/0½	Faversham	1/5	1/0½	Merthyr Tydfil	1/7	1/2½	Thorpe Bay	1/7	1/2½
Birkenhead	‡§1/8½	¶	Felixstowe	1/6	1/1½	Middlesbrough	1/7½	1/2½	Todmorden	1/7½	1/2½
Birmingham	1/7½	1/2½	Filey	1/6	1/1½	Middleton	1/7½	1/2½	Tonbridge	1/6	1/1½
Bishop Auckland	1/7½	1/2½	Fleetwood	1/7½	1/2½	Middlewich	1/6½	1/2	Torquay	1/7	1/2½
Bishops Stortford	1/6	1/1½	Flint	1/7	1/2½	Milford Haven	1/5½	1/1½	Totnes	1/5½	1/1½
Blackburn	1/7½	1/2½	Folkestone	1/5	1/0½	Morecambe	1/7½	1/2½	Trowbridge	1/4½*	1/0½
Blackpool	1/7½	1/2½	Frinton-on-Sea	1/5½	1/1½	Morley	1/7½	1/2½	Truro	1/4½	1/0½
Blyth	1/7½	1/2½	Frome	1/4½*	1/0½	Mundesley	1/4½	1/0½	Tunbridge Wells	1/6	1/1½
Bognor Regis	1/5½	1/1½	Gainsborough	1/6½	1/2	Nantwich	1/6½	1/2	Uppingham	1/6	1/1½
Bolton	1/7½	1/2½	Gateshead	1/7½	1/2½	Nelson	1/7½	1/2½	Uttoxeter	1/6	1/1½
Bournemouth	1/6½	1/2	Gillingham (Kent)	1/6	1/1½	Newark-on-Trent	1/6½	1/2	Wakefield	1/7½	1/2½
Bracknell	1/5½	1/1½	Glossop	1/7½	1/2½	Newbury	1/5½	1/1½	Walsall	1/7½	1/2½
Bradford	1/7½	1/2½	Gloucester	1/6½†	1/2	Newcastle-on-Tyne	1/7½	1/2½	Walsden	1/7½	1/2½
Bradford-on-Avon	1/4½*	1/0½	Godalming	1/5½	1/1½	Newcastle-u-Lyme	1/7½	1/2½	Walton-on-Naze	1/5½	1/1½
Braintree	1/5½	1/1½	Goole	1/7½	1/2½	New Forest	1/4½	1/0½	Ware	1/6½	1/2
Brentwood	1/7	1/2½	Gosport	1/6½	1/2	Newmarket	1/5½	1/1½	Warminster	1/4½*	1/0½
Bridgwater	1/5½	1/1½	Grantham	1/6½	1/2	Newport, Mon.	1/7½	1/2½	Warrington	1/7½	1/2½
Bridlington	1/7	1/2½	Gravesend	1/7	1/2½	Newport Pagnell	1/5½	1/1½	Warwick	1/7½	1/2½
Brighouse	1/7½	1/2½	Great Yarmouth	1/5½	1/1½	Northampton	1/7½	1/2½	Wellingborough	1/7	1/2½
Brighton	1/6½	1/2	Grimsby	1/7½	1/2½	Norwich	1/7½	1/2½	Wells (Norfolk)	1/3½	11½
Bristol	1/7½	1/2½	Guildford	1/5½	1/1½	Nottingham	1/7½	1/2½	Welwyn	1/6½	1/2
Broadstairs	1/5	1/0½	Guilsborough	1/6	1/1½	Nuneaton	1/7½	1/2½	Welwyn Gar. City	1/7½	1/2½
Bromsgrove	1/6½	1/2	Halifax	1/7½	1/2½	Oakham	1/6	1/1½	West Bromwich	1/7½	1/2½
Buckley	1/7½	1/2½	Hanley	1/7½	1/2½	Oldham	1/7½	1/2½	Westcliff-on-Sea	1/7	1/2½
Bungay	1/3½	11½	Harpenden	1/6	1/1½	Ormskirk	1/7½	1/2½	Weston-super-Mare	1/6½	1/2
Burnham-on-Crouch	1/4	1/0	Harrogate	1/7½	1/2½	Oxford	1/7	1/2½	Weybridge	1/6½	1/2
Burnley	1/7½	1/2½	Hartlepools	1/7½	1/2½	Oxted	1/6	1/1½	Weymouth	1/5*	1/0½
Burslem	1/7½	1/2½	Harwich	1/5½	1/1½	Paignton	1/7	1/2½	Whitby	1/6½	1/2
Burton-onTrent	1/7½	1/2½	Haslemere	1/5½	1/1½	Peterborough	1/7	1/2½	Whitstable	1/5	1/0½
Bury	1/7½	1/2½	Hastings	1/5½	1/1½	Plymouth	1/7½	1/2½	Widnes	1/7½	1/2½
Bury St. Edmunds	1/5	1/0½	Hatfield	1/6½	1/2	Pontefract	1/7½	1/2½	Wigan	1/7½	1/2½
Buxton	1/7	1/2½	Haywards Heath	1/5½	1/1½	Pontypridd	1/7	1/2½	Wigton	1/6	1/1½
Byfleet	1/6	1/1½	Hednesford	1/7	1/2½	Portsmouth	1/6½	1/2	Willington	1/7	1/2½
Cambridge	1/7	1/2½	Hemel Hempstead	1/6½	1/2	Port Talbot	1/7½	1/2½	Wilmslow	1/7½	1/2½
Canterbury	1/5	1/0½	Henley-on-Thames	1/5½	1/1½	Preston	1/7½	1/2½	Winchester	1/5½	1/1½
Cardiff	1/7½	1/2½	Hereford	1/5½*	1/1½	Pulborough	1/5½	1/1½	Windermere	1/6	1/1½
Carlisle	1/7½	1/2½	Herne Bay	1/5	1/0½	Ramsgate	1/5	1/0½	Windsor	1/6½	1/2
Carnforth	1/7½	1/2½	Hertford	1/6½	1/2	Reading	1/6½	1/2	Wisbech	1/4½	1/0½
Castleford	1/7½	1/2½	Heysham	1/7½	1/2½	Redditch (Northern)	1/6½	1/2	Witham	1/5½	1/1½
Caterham	1/7½	1/2½	Hitchin	1/6	1/1½	Redhill	1/6	1/1½	Woking	1/6	1/1½
Chard	1/4½*	1/0½	Hoddesdon	1/6½	1/2	Reigate	1/6	1/1½	Wokingham	1/5½	1/1½
Chatham	1/6	1/1½	Holt (Norfolk)	1/3½	11½	Retford	1/6	1/1½	Wolverhampton	1/7½	1/2½
Chelmsford	1/6	1/1½	Horley	1/5½	1/1½	Rickmansworth	1/7	1/2½	Woodbridge	1/4½	1/0½
Cheltenham	1/6½	1/2	Horsham	1/5½	1/1½	Ripon	1/6	1/1½	Worcester	1/7	1/2½
Chepstow	1/6½	1/2	Horwich	1/7½	1/2½	Rochdale	1/7½	1/2½	Workington	1/6½	1/1½
Chertsey	1/6½	1/2	Huddersfield	1/7½	1/2½	Rochester	1/6	1/1½	Worksop	1/6	1/2
Chester	1/7½	1/2½	Hull	1/7½	1/2½	Rugby	1/7½	1/2½	Worthing	1/5½	1/1½
Chesterfield	1/7½	1/2½	Hunstanton	1/4	1/0	Saffron Walden	1/4	1/0	Wrexham	1/7	1/2½
Chichester	1/5½	1/1½	Huntingdon	1/4½	1/0½	St. Albans	1/7	1/2½	Wroxham	1/5	1/0½
Chorley	1/7½	1/2½	Ilfracombe	1/5½	1/1½	St. Helens	1/7½	1/2½	Wycombe	1/6	1/1½
Cirencester	1/5*	1/0½	Ingatestone	1/5½	1/1½	St. Neots	1/4½	1/0½	Wymondham	1/4	1/0
Clacton	1/5½	1/1½	Ipswich	1/6½	1/2	Salisbury City	1/4½*	1/0½	Yeovil	1/5½	1/1½
Cleveleys	1/7½	1/2½	Isle of Thanet	1/5	1/0½	Salisbury Plain	1/5½*	1/1½	York	1/7½	1/2½

* Painters 1d. less than other Craftsmen. † Painters ½d. less than other Craftsmen. ‡ Plasterers 1/9

¶ Tradesmen's Labourers 1/3½. Navvies and General Labourers 1/3

§ Joiners, Plumbers, Bricklayers, Tilers and Masons receive 2/- per week or 4d. per day Tool Money.

For Building Trade Wages in Scotland see page 816.

CURRENT PRICES FOR BUILDING WORK IN LONDON.

Note.—These prices apply to new buildings only. They cover superintendence by foreman and carry a profit of 10 per cent. on the prime cost, without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts, and from 1s. 6d. per £100 Fire Insurance. The whole of the information given is copyright.

		£	s.	d.
PRELIMINARIES.				
Hoardings, with suitable gate, 8 ft. high	per ft. run	0	3	0
Steel scaffolding for brickwork	per sqre.	1	5	0
Steel scaffolding for stone building	,,	1	10	0
Steel gantry for stone building	per ft. run	2	10	0
Office, shed for cement and mess-room	say	75	0	0
EXCAVATOR.				
Digging, throwing out and filling into carts and carting to shoot, 5 ft. deep	per yd. cube	0	7	9
Add if stiff clay	,,	0	1	0
Add for every additional 5 ft.	,,	0	0	6
Add if in trenches	,,	0	0	9
Add to price of digging for breaking up concrete foundation and brickwork	,,	0	10	0
Return, fill and ram	,,	0	1	9
Fill into carts and cart away	,,	0	3	6
Planking and strutting to trenches	per ft. super	0	0	3½
Planking and strutting to sides of basement excavation next roadway	,,	0	1	4
Needling, flying and raking shores and removing after and carting away	per ft. cube	0	6	9
CONCRETOR.				
Portland cement and ballast concrete 1-6 in. foundations	per yd. cube	1	2	0
Add in underpinning in short lengths	,, ,,	0	6	0
Concrete in floors, ¾ in. aggregate, and sand, 1-2-4—				
4 in. thick	per yd. super	0	3	4
6 in. thick	,, ,,	0	4	8
Add if trowelled smooth	,, ,,	0	0	9
Add for hoisting, each floor	,, ,,	0	0	3
Concrete 1-2-4 in. beams and stanchions	per ft. cube	0	1	4
Concrete in lintols, with steel rod reinforcement each 4½ in. width and shuttering	,, ,,	0	4	0
1½ in. centering, with stout supports for concrete floors	per square	2	2	0
Do. to sides and soffites of beams	per ft. super	0	0	8
Do. to sides of stanchions	,, ,,	0	0	7
Steel rod reinforcement under ⅝ in. diameter, cut, bent and placed in position	per cwt.	1	8	0
Do. do. over ⅝ in. diameter	,,	1	5	0
BRICKWORK.				
Reduced to 1½ brick in flettons, lime mortar	per rod	26	0	0
Add for 2nd hard stocks	,,	8	0	0
Add for Blue Staffordshire	,,	22	0	0
Add to above if in 1-4 cement	,,	0	15	0
Add if in backing to stonework	,,	1	5	0
Add if in underpinning in cement	,,	4	10	0
Add if above 40 ft. to 60 ft. high	,,	2	0	0
SUNDRIES.				
Damp course in double course of slates, breaking joint	per ft. super	0	0	11
Vertical do. do.	,,	0	1	2
Bituminastic	,,	0	0	5
Lead core	,,	0	0	10
Cut, tooth and bond new to old brickwork	,,	0	1	0
Rake out joints of brickwork	,,	0	0	1
Leave chase for concrete floor	per ft. run	0	0	2
Cut chase 4½ in. deep for concrete floor	,,	0	1	2
Leave chase for vertical pipe	,,	0	0	4
Cut chase for vertical pipe	,,	0	1	4
Rake out joint for flashings and point	,,	0	0	2
Do. stepped do.	,,	0	0	4
Do. for asphalt skirting	,,	0	0	2
Build in ends of timbers	each	0	0	4
Do. steel joists up to 12 in. deep	,,	0	0	6
Do. step and make good facings	,,	0	1	6
Set and flaunch chimney pots	,,	0	7	6
Render fire openings	,,	0	2	0
Bed and point door frames one side	,,	0	3	0
Do. both sides	,,	0	4	6
Do. window frames, one side	,,	0	4	0
Setting only register grate	,,	1	0	0
Do. interior hearths and mantles	,,	1	15	0
Do. kitchen range, large	,,	5	0	0
Fix air brick and form flue	,,	0	2	0
Cut holes for pipes and make good facings, 9 in. wall	,,	0	2	0
Do. do. 13½ in. wall	,,	0	2	6
Do. large pipes and do. 9 in. wall	,,	0	3	0
Do. do. 13½ in. wall	,,	0	3	6
FACINGS.				
Extra for facings in Flemish bond for each 10s. per thousand over the price of Flettons	per ft. super	0		1½
Pointing facings to approval	,,	0		3
Arches extra over Flettons in stocks	,,	0		8
Do. in reds	,,	1		0
Do rubbed and gauged in putty	,,	5		9

		£	s.	d.
PARTITIONS.				
2 in. breeze slab partitions in cement	per yd. super	4		0
3 in. do do.	,,	4		6
2 in. hollow-tile do.	,,	4		9
3 in. do. do.	,,	5		6
PAVING.				
1 in. granolithic paving gauged 5—2	per yd. super	2		7
1½ in. do. do.	,,	2		11
1 in. × 6 in. covered skirting	per ft. run	0		10
ASPHALT (NATURAL).				
½ in. horizontal damp course	per ft. super	0		6
⅝ in. horizontal damp course	,,	0		8
¾ in. vertical do. in two layers	per yd. super	9		6
½ in. in flats, two layers	,,	6		0
Angle fillet	per ft. run	0		3
6 in. skirting and angle fillet and jointing top edge	,,	1		0
DRAINAGE.				
Excavate, trench for drain and throw out, return, fill and ram, and including any planking and strutting required, and cart away surplus earth per ft. run	1 ft. deep	0		5
	2 ft. deep	0		10
	3 ft. deep	1		3
	4 ft. deep	1		8
	5 ft. deep	4		2
	6 ft. deep	5		0
	7 ft. deep	5		10
	8 ft. deep	6		8
4 in. best quality glazed stoneware drain pipe, socketed joints, yarn and neat cement, on and including cement concrete bed, 18 in. wide and 6 in. thick, and benched up on each side of pipe	per ft. run	2		4
6 in. do. do. do. but concrete bed 20 in. and 6 in. thick	,,	3		0
9 in. do. do. do. but concrete bed 23 in. wide and 6 in. thick	,,	4		11
Extra for 4 in. bends	each	2		6
Do. 6 in. ,,	,,	3		6
Do. 9 in. ,,	,,	5		6
Extra for 4 in, junctions	,,	2		9
Do. 6 in. ,,	,,	3		9
Do. 9 in. ,,	,,	6		0
4 in. stoneware gully, encased in concrete and making good granolithic paving	,,	13		0
6 in. do.	,,	14		0
9 in. do.	,,	18		6
4 in. stoneware interceptor, and surround with concrete	,,	1	5	0
6 in. do.	,,	1	10	0
9 in. do.	,,	2	10	0
IRON DRAINS.				
4 in. C.I. drain and laying and jointing in molten lead	per ft. run	3		4
6 in. do. do.	,,	5		0
Extra for 4 in. bends	each	10		0
Extra for 6 in. bends	,,	18		0
Extra for 4 in. junctions	,,	17		6
Extra for 6 in. junctions	,,	30		0
MASON.				
Bath stone and all labour, fixed	per ft. cube	10		9
Portland stone and all labour, fixed	,, ,,	17		9
York stone templates, fixed	,, ,,	12		6
York stone steps, fixed	,, ,,	16		0
York stone cills, fixed	,, ,,	1	2	0
SLATER.				
24 × 12 Bangor slates laid to 3 in. lap secured with zinc nails	per square	3	18	6
20 × 10 do.	,,	3	13	6
16 × 8 do.	,,	3	11	6
Extra to eaves course	per ft. run	0		9
Extra to top edge and square abutments	,,	0		4½
Extra to verge and labour only, bedding and pointing	,,	0		7½
Raking, cutting and waste	,,	0		7
Half-round red ridge tile	,,	1		2
Half-round blue ridge tile	,,	1		8
Fixing only soakers	per dozen	0		9
Red hand-made sand-faced tiles laid to 4 in. gauge, nailed every fifth course with galvanised iron nails	per square	3	0	0
Extra to eaves course	per ft. run	0		5
Extra to top edge and square abutments	,, ,,	0		3½
Extra to verge and bed and point	,, ,,	0		11
Half-round ridge	,, ,,	1		4
Bonnet hips, including cutting and waste (both sides)	,, ,,	0		8
Valley tiles, including cutting and waste (both sides)	,, ,,	3		6
Fixing only soakers	per dozen	0		9

CURRENT PRICES FOR BUILDING WORK IN LONDON.—continued.

CARPENTER AND JOINER.

		s.	d.
Fir framed in plates	per ft. cube	4	0
Do. joints	,, ,,	4	6
Do. roofs, etc.	,, ,,	5	3
Do. trusses	,, ,,	6	9

		¾in.	1in.	1¼in.
Deal rough close boarding	per sq.	32/-	38/-	47/-
Battens for slating	,,	10/-	11/-	12/-
Centre for arches	per ft. super			1 6
Gutter boards and bearer	,, ,,			1 0

FLOORING.

		¾in.	1in.	1½in.	1½in.
Deal edges shot	per sq.	—	41/-	49/-	58/-
Do. tongued and grooved	,,	—	46/-	55/-	67/-
Do. matchings	,,	42/-	47/6	—	—
Moulded skirtings, including backings and grounds	per ft. super	1/4	1/7	1/9	2/3
Mitres	each	-/6	-/8	-/9	1/-
Stop ends	,,	-/3	-/4	-/4	-/6

SASHES AND FRAMES.

		s.	d.
One-and-a-half in. moulded sashes	per ft. super	1	9
Two in. do. do.	,, ,,	2	0
Add for fitting and fixing	,, ,,	0	2
Deal cased frames, 1 in. linings, 1¼ in. pulley and stiles, 2 in. moulded sashes, in squares, hardwood cill, double hung with pulleys, lines and weights, average size	,, ,,	3	3

DOORS.

		1½in.	1¾in.	2in.
Two-panel square framed	per ft. super	2 1	2 3	2 5
Four-panel do.	,, ,,	2 4	2 6	2 9
Two-panel moulded both sides	,, ,,	2 6	2 9	2 11
Four-panel do. do.	,, ,,	2 9	2 11	3 2

		£	s.	d.
Flush doors. 1½ in. to 2 in. finished thickness skeleton core, covered each side with Columbian pine ply, solid pine edging, 2 ft. 6 in. by 6 ft. 6 in.	each	1	15	0
Do., covered with Gaboon mahogany ply, solid mahogany edging, 2 ft. 6 in. by 6 ft. 6 in.	,,	2	0	0
Solid core, all as first item	,,	2	0	0
Solid core, all as second item	,,	2	5	0
Shaped peep holes, 4 sided	,,	0	5	0
Hexagonal holes	,,	0	6	0
Circular holes	,,	0	7	0

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per ft. cube	12	0
Hardwood do. do.	,, ,,	36	0

		1in.	1¼in.	1½in.
Plain deal jamb linings, framed	per ft. super	1 7	1 8	1 11
Deal shelves and bearers	,, ,,	1 2	1 4	1 7
Add if cross-tongued	,, ,,	-/2	-/2	-/2
Deal window board, tongued to oak cill and bearers	,, ,,	1 6	1 9	2 0
Deal moulding, tongued and grooved to window board	per ft. run			0 6

SUNDRIES.

		s.	d.
Deal architrave, including mitres per sectional inch.	per ft. run	0	1
Glazing beads, deal fixed	,, ,,	0	2
Do. fixed with brass screws and cups	,, ,,	0	4
Rebate	,, ,,	0	0½
Groove	,, ,,	0	0½
Notching	,, ,,	0	2
Tongued and grooved angle	,, ,,	0	3½
Rounded heel and hollow	,, ,,	0	2½

STAIRCASES.

		1in.	1¼in.	1½in.	2in.
Deal treads and risers on and including rough brackets	per ft. super	2/-	2/3	2/8	—
Deal strings, wrot and framed	,, ,,	—	—	2/2	2/8
Housings	each				0 9
Mahogany handrail, average 3 in. x 3 in.	per ft. run				5 6
Add if ramped	,, ,,				11 0
Add if wreathed	,, ,,				1 2 0

FIXING ONLY IRONMONGERY.

	s.	d.
Barrel bolts	0	8
Sash fasteners	1	0
Casement fasteners	1	2
Casement stays	1	2

FIXING ONLY IRONMONGERY—*Continued.*

	£	s.	d.
Flush bolts		1	6
Cupboard locks		1	6
Rim locks and furniture		2	0
Mortice locks and furniture		4	0
Floor springs, including oil	1	0	0
Overhead springs		5	0

FOUNDER AND SMITH.

		£	s.	d.
Rolled steel joists	per cwt.	1	1	0
Compound girders	,,	1	4	0
Stanchions	,,	1	6	0
Roofwork	,,	1	12	0

RAINWATER GOODS.

		3 in.	4 in.	5 in.	6 in.
Half-round eaves gutters and fixing	per ft. run	1/3	1/4	1/10	1/11
Ogee do. do.	,, ,,	1/5	1/6	2/1	2/9
R.W. pipe and fixing	,, ,,	1/7	2/1	—	—
Extra for shoes and bends	each	3/3	4/6	—	—
Do. stopped ends	,,	1/3	1/7	2/-	3/-
Do. nozzles and angles	,,	2/7	3/-	4/2	4/8

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	46	0
Do. in flats	,,	45	0
Extra labour and solder in cesspools	each	6	0
Welt joint	per ft. run	0	4
Soldered seam	,, ,,	1	6
Copper nailing—close	,, ,,	0	3
Do. do. open	,, ,,	0	2
Soldered dots	each	2	0
Bossed ends to rolls	,,	0	6

	½in.	¾in.	1in.	1½in.	1½in.	2in.	4in.
Lead overflow per ft. run	-/10½	1/3	1/9	2/1	2/6	3/2	—
,, service ,,	1/4	1/11	3/7	3/7	4/4	5/9	—
,, soil ,,	—	—	—	—	—	—	7/-
Bends in pipe each	—	—	—	—	2/-	2/3	5/6
Wiped solder joints ,,	2/-	2/6	2/9	3/3	3/6	4/3	6/-
Lead traps and cleaning screws ,,	6/6	9/6	—	—	—	—	—
Stopcocks and joints ,,	11/6	14/6	18/6	—	—	—	—

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yd. super	2	0
Do. narrow widths	per ft. super	0	4
Do. and set with Sirapite	per yd. super	2	3
Do. narrow widths	per ft. super	0	4
Do. and set with Keenes	per yd. super	3	0
Do. narrow widths	per ft. super	0	5½
Add sawn lathing	per yd. super	1	4
Add metal lathing (not including hangers or runners for suspended ceilings)	,, ,,	2	4
Portland cement screed	,, ,,	1	7
Do. plain face	,, ,,	3	3
Mouldings in plaster	per 1 in. girth	0	1½

GLAZIER.

		s.	d.
24 oz. sheet	per ft. super	0	7½
26 oz. sheet	,, ,,	0	8
24 oz. Obscured sheet	,, ,,	0	8½
Double Cathedral	,, ,,	0	9½
Majestic	,, ,,	0	10
Flemish	,, ,,	0	10
Pinhead Morocco	,, ,,	0	10
¼ in. rough rolled or cast plate	,, ,,	0	10½
¼ in. wired cast plate	,, ,,	1	1½

PAINTER.

		s.	d.
Preparing and distempering, two coats	per yd. super	0	7½
Knotting and priming	,, ,,	0	7
Plain painting, one coat	,, ,,	0	9
Do. two coats	,, ,,	1	2
Do. three coats	,, ,,	1	9
Do. four coats	,, ,,	2	4
Graining	,, ,,	2	3
Varnishing, twice	,, ,,	1	9
Sizing	,, ,,	0	3
Flatting	,, ,,	0	7
Enamel	,, ,,	1	1
Wax polishing	per ft. super	0	6
French polishing	,, ,,	1	2
Preparing for and hanging paper	per piece	2/-	to 4/-

PRICES CURRENT OF MATERIALS*

Owing to the exceptional circumstances which prevail at the present time prices of materials should be confirmed by inquiry.

CHANGES OF THE WEEK.—Lead in all forms advances by 5s. per ton.

BRICKS, &c.

Delivered to site, City and Central Area, Full Lorry Loads:

	£ s. d.
Best Stocks	4 15 0
Second Hard Stocks	4 8 0

Per 1,000. Delivered at London Goods Stations.

2½ in. Phorpres	King's Cross Station. per 1,000. s. d.	To sites in W.C. District. per 1,000. s. d.
Pressed bricks	46 3	50 6
Cellular bricks	46 3	50 6
Keyed bricks	48 3	52 6
Cellular Keyed bricks	48 3	52 6
Rustic bricks	*66 3	*70 6
Cellular Rustic bricks	*66 3	*70 6
Single Bullnose	64 3	68 6
White bricks	*66 3	*70 6
Sandfaced bricks	—	75 6

* Subject to a special discount of 2s. per 1,000 if accompanied by order for Pressed.

	£ s. d.
White Midhurst Facing Bricks (delivered London site)	4 0 0
Best blue Pressed Staffs	8 6 6
Do., Bullnose	8 16 6
Blue Wire Cuts	7 4 0

Best Stourbridge Fire Brick :—

£ s. d.		£ s. d.
2½ in. 7 15 0	3 in.	8 15 0

GLAZED BRICKS —

Best White Ivory and Salt Glazed	24 0 0	D'ble Str'tch'rs	32 10 0
		D'ble Headers	29 10 0
Stretcher		One side & two ends	33 10 0
Headers	23 10 0	Two sides & one end	34 10 0
Quoins, Bullnose and 4½ in. Flats	30 10 0	Splays and Squints	31 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glaze, £5 10s. extra over white.

PARTITION SLABS.

Delivered London Area.

"PHORPRES" HOLLOW PARTITION BLOCKS.

2" per yd. sup.	2 3	3" per yd. sup.	2 9
2½" " "	2 6	4" " "	3 1

CLINKER CONCRETE.

2" per yd. sup.	1 6	3" per yd. sup.	2 0
2½" " "	1 8	4" " "	2 4

CRANHAM TERRA COTTA.

2" per yd. sup.	3 0	3" per yd. sup.	3 8
2½" " "	3 6	4" " "	4 7

HEMPSTEAD—KEYED TWO SIDES.

12" x 9" x 2"	2 6	12" x 9" x 3"	3 0
12" x 9" x 2½"	2 9	12" x 9" x 4"	3 9

Per yard super d/d. Free on site, London.

	s. d.	
Thames Ballast	7 3	per yd.
Pit Ballast	6 3	" "
Pit Sand	7 9	" "
Washed Sand	8 3	" "
¾ in. Shingle	7 3	" "
¾ in. Broken Brick	11 3	" "
Pan Breeze	8 3	" "

delivered 2 miles radius Paddington.

CEMENT.

Best British Portland Cement. Standard Specification delivered London Area in jute sacks (11 to ton), or paper bags (20 to ton) free (non-returnable) :—

	£ s. d.
4 ton loads and upwards site ..... Per ton	2 2 0
1 ton to 4 tons site	2 4 0
Alongside Vauxhall in 80-ton lots	1 18 0
"Ferrocrete" Rapid Hardening Cement :—	
4 ton loads and upwards site	2 8 0
1 ton to 4 tons site	2 10 0
Alongside Vauxhall in 80-ton lots	2 4 0

Stored in Reserved Bins at Works 1/6 ton extra.

NOTE.—Jute sacks are charged 1s. 6d. each and credited 1s. 6d. nett, if returned in good condition within three months, carriage paid.

"Aquacrete" Water Repellent, "Blue Circle" Cement, 30/- per ton extra on ordinary "Blue Circle" Portland Cement prices.

"Colorcrete" Nos. 1 and 2 Coloured Rapid Hardening Portland Cement in 1-cwt. paper bags free (non-returnable) in 1-ton lots and upwards site 3 9 0

"Snowcrete" White Portland Cement in 1-cwt. paper bags free (non-returnable)

1 ton and upwards site	8 15 0
Super Cement (Waterproof) paper bags free	3 12 0
Roman Cement	6 15 0
Parian Cement	6 0 0
Keene's Cement, White	6 0 0
" " Pink	5 12 6

Cementone Colours for cement according to tints per cwt. from £2 16s. 0d.

PLASTER.

	£ s. d.		£ s. d.
Coarse, Pink	3 2 0	Sirapite, Coarse	3 10 6
" White	3 12 6	" Finish	3 18 6
Pioneer	3 10 6		
Super Carbo	2 7 6	4-ton loads & over London Area, paper bags free.	
Carbo Setting	2 12 6		
Best Ground Blue Lias Lime	1 17 6	Grey Stone Lime	2 2 0
		Chalk Lime	2 2 0
Granite Chippings	1 12 0	Hair per cwt.	2 7 6

NOTE.—Sacks are charged 1s. 9d. each, and credited 1s. 6d., if returned in good condition within three months, carriage paid.

Stourbridge Fireclay in sacks 37s. per ton at rly. depot.

STONE.

	s. d.
BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	2 10½
BEER STONE—RANDOM BLOCK— Free on rail at Seaton Station, per ft. cube	2 3
Delivered free on rail Nine Elms, S.R. per ft. cube	3 1½

Selected approximate size one way, 1d. per cubic ft. extra, selected approximately three sizes or for special work, 3d. per cubic ft. extra.

	s. d.
PORTLAND STONE— Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 5
Do. do. delivered on road waggons as above stations, per ft. cube	4 6
White basebed, 3d. per ft. cube extra.	
NOTE.—1d. per ft. cube extra for every ft. over 20 ft. *average* and ¼d. beyond 30 ft.	
HOPTON-WOOD STONE— F.O.R. Quarries, Wirksworth, Derbyshire, Random blocks from 10 ft. and over P.ft.cb.	14 0
Sawn two sides	22 6
HOPTON-WOOD STONE— Sawn three or four sides	27 9
YORK STONE, BLUE.—*Robin Hood Quality.* Delivered at any Goods Station, London.	
6 in. sawn two sides landings to sizes (under 30 ft. super) per ft. super	5 0
6 in. rubbed two sides, ditto .. "	5 6
3 in. sawn two sides slabs (random sizes) "	1 3½
1 in. to 2½ in. sawn one side slabs (random sizes) "	1 6½
1½ in. to 2 in., ditto "	1 3½
HARD YORK— Delivered at any Goods Station, London.	
Scappled random blocks Per ft. cube	6 3
6 in. sawn two sides landings to sizes (under 40 ft. super) per ft. super	5 1½
6 in. rubbed two sides, ditto .. "	6 1½
4 in. sawn two sides slabs (random sizes) "	3 1½
3 in. ditto ditto "	2 5
2 in. self-faced random flags Per yd. super	7 6

CAST STONE.

Delivered in London area in full van loads, per ft. cube : Plain, 7s. 6d. Moulded, 8s. 6d. Sills, 10s. 0d.

HARD WOOD.

1 INCH AND UP THICK.

Average price for prime quality.	£ s. d.
Dry Austrian Wainscot, per ft. cube	0 16 0
Dry American and/or Japanese Figured Oak, per ft. cube 10 0 to	0 12 0
Dry American and/or Japanese plain Oak, per ft. cube	0 11 6
Dry sq. edged Honduras Mahogany, per ft. cube	0 15 0
Dry log-cut Honduras Mahogany, per ft. cube 12 6 to	0 16 6
Dry Cuba Mahogany, per ft. cube	1 1 0
Dry Teak, per ft. cube	0 14 0
Dry American Whitewood, per ft. cube	0 10 6
Best Scotch Glue, per cwt.	3 0 0
Liquid Glue, per cwt. 4 7 0 to	5 10 0

SOFT WOOD.

GOOD BUILDING DEAL.

Inches.	Per stan.	Inches.	Per stan.
4 × 11	£28 10	3 × 6	£23 10
4 × 9	28 10	3 × 11	27 10
4 × 8	25 10	2 × 11	27 10
4 × 7	25 10	3 × 9	24 10
3 × 8	23 10	2½ × 9	24 10
3 × 7	23 10	3 × 4½	23 10
2½ × 7	23 10	3 × 4	23 10

PLANED BOARDS.

1 × 11	£28 10	1 × 9	£26 10

PLAIN EDGE FLOORING.

Inches.	Per sq.	Inches.	Per sq.
¾	18/-	1¼	30/-
¾	21/-	1¼	37/6
1	23/6		

TONGUED AND GROOVED FLOORING. Inches.	Per sq.
1	24/-
1¼	31/-
1½	38/6

ins. BATTENS.	s. d.
¾ × 2 per 100 ft.	2 8

MATCHING (BEST). Inches.	Per sq.
¾	19/-
¾	21/-
1	27/6

SAWN LATHS.	s. d.
Per bundle	2 5

SLATES.

First quality slates from Penrhyn or Portmadoc, carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

	£ s. d.		£ s. d.
24 by 12	31 5 0	18 by 10	16 10 0
22 by 12	26 5 0	18 by 9	14 17 6
22 by 11	23 12 6	16 by 10	14 7 6
20 by 12	23 2 0	16 by 8	11 6 0
20 by 10	20 15 0		

TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons ..... Per 1,000 f.o.r. London.

	£ s. d.
Best machine-made tiles from Broseley or Staffordshire district	£4 2 6
ditto hand-made ditto	4 17 6
Ornamental ditto	5 2 6
Hip and valley tiles (per dozen) Hand-made	0 8 6
Machine-made	0 8 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION, PER TON—

	£ s. d.
R.S. Joists, cut and fitted	£17 10 0
Plain Compound Girders	20 10 0
" " Stanchions	22 10 0
In Roof Work	27 10 0

MILD STEEL ROUNDS.—To London Stations, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
¼ in.	18 5 0	⅝ in. to ⅞ in.	16 15 0
⅜ in.	17 5 0	1 in. to 2½ in.	16 5 0

WROUGHT-IRON TUBES AND FITTINGS—

(Discount off List for lot of not less than £10 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward, if sent from London Stocks.)

	Standard Wrot. Mild Steel Tubes and Tubulars. Sizes. ⅛ in. to ⅜ in.	Sizes. ½ in. to 2 in.	Standard Flanges. Sizes. ½ in. to 2 in.	Standard Fittings.
	%	%	%	%
Gas	55	60	57½	53½
Water	52	57½	57½	50
Steam	48½	53½	46½	45
Galv. gas	45	50	46½	43½
Galv. water	40	45	38½	38½
Galv. steam	33½	38½	33½	35

C.I. HALF-ROUND GUTTERS—London Price ex Works.

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	1/9½	1/4½	5½d.
3½ in.	2/1	1/6	6½d.
4 in.	2/1	1/8	8d.
4½ in.	2/2½	1/11	10½d.
5 in.	2/4½	2/-	1/0½

O.G. GUTTERS.

3 in.	2/1	1/10	8½d.
3½ in.	2/3½	1/10	9½d.
4 in.	2/5	1/11	10½d.
4½ in.	2/6	2/2½	1/0½
5 in.	2/10	2/6½	1/2½

RAIN WATER PIPES, &c.

Per yd. in 6 fts.	Pipe.	Bends, stock angles,	Branches, stock angles.
2 in.	2/8½	1/8	2/5½
2½ in.	2/9½	1/11	2/11½
3 in.	3/8	2/4½	3/7
3½ in.	4/1	2/10½	4/1½
4 in.	4/9½	3/5	5/-

Less 20 per cent. trade discount.

Tonnage allowance—4-ton lots, 5 per cent.
2-ton lots, 2½ per cent.

L.C.C. COATED SOIL PIPES—London Prices ex Stock.

	Pipe. s. d.	Bends, stock angles, s. d.	Branches, stock angles. s. d.
2 in. per yd. in 6 fts.	3 5	2 5	2 11
2½ in. "	3 10	2 8	3 8
3 in. "	4 2	2 11	4 4
3½ in. "	4 7	3 8	5 0
4 in. "	5 0	4 0	5 10

L.C.C. COATED DRAIN PIPES.—London Prices ex Stock.

	Pipe. s. d.	Bends, stock angle, s. d.	Branches, stock angles. s. d.
3 in. per yd. in 9 ft. lengths	4 9	5 4	8 9
cwt. qr. lbs.			
4 in. " 1 1 20	6 9	6 3	11 0
5 in. " 1 2 22	8 4	11 0	16 11
6 in. " 2 0 6	10 0	12 10	21 3

Gaskin for jointing 45/- per cwt.

IRON—	Per ton in £ s. d.	London. £ s. d.
Common Bars	13 15 0 to	14 15 0
Staffordshire Crown Bars— Good merchant quality	15 10 0 to	17 0 0
Staffordshire Marked Bars	18 0 0 ..	19 0 0
Mild Steel Bars	13 10 0 ..	14 10 0
Steel Bars, Ferro-Concrete quality, basis price	15 0 0 ..	16 0 0
Hoop iron, basis price	15 0 0 ..	16 0 0
" Galvanised	25 0 0 ..	27 0 0

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

HUDDERSFIELD
Building Society

Experience has shown that the arrangements made by the Huddersfield to assist occupier borrowers have given the utmost satisfaction, and the service rendered has been greatly appreciated by builders' clients.

Write for information to The Huddersfield Building Society, Britannia House, 203, Strand, London, W.C.2, or to the Head Office, Britannia Buildings, Huddersfield. Andrew Stewart, C.A., Managing Director.

WHEN YOU INVEST—A HOUSE IS BEST

PRICES CURRENT OF MATERIALS—(*Cont.*)

IRON— Per ton in London.

	£ s. d.	£ s. d.
Soft Steel Sheets, Black—		
Ordinary sizes, to 20 g.	17 5 0	18 5 0
" " 24 g.	18 5 0	19 5 0
" " 26 g.	19 5 0	20 5 0
Sheets Flat Best Soft Steel, C.R. and C.A. quality—		
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	18 10 0	19 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.	20 10 0	21 10 0
No. 1 quality £4 per ton extra.		
Flat and Galvanised Corrugated Sheets—		
Ordinary sizes, 6 ft. to 9 ft. to 20 g.	20 0 0	22 0 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g.	20 0 0	23 10 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	22 10 0	24 10 0
Sheets, Galvanised, Flat Best quality—		
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	21 0 0	24 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	22 0 0	21 10 0
Best Soft Steel Sheets, 26 g.	24 10 0	25 10 0
Cut Nails, 3 in. to 6 in.	19 10 0	21 10 0

(Under 3 in. usual trade extras.)

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

COPPER.

		s. d.
Seamless Copper tubes (basis)	per lb.	1 3
Strong sheet	"	1 3½
Thin	"	1 4½
Copper nails	"	1 3½
Copper wire	"	1 3½

PLUMBERS' BRASS WORK.

Delivered in London.
Stamped by Met. Water Board.

CRUTCH HEAD SCREW DOWN BIB COCKS FOR IRON. EASY CLEAN.

½ in.	¾ in.
32/-	47/- per doz.

CHROMIUM PLATED TOILET SCREW DOWN BIB COCKS FOR IRON. EASY CLEAN.

½ in.	¾ in.
42/-	61/6 per doz.

SCREW DOWN STOP COCKS FOR IRON.

¼ in.	⅜ in	1 in.	1¼ in.	1½ in.	2 in.
27/6	42/6	75/-	181/-	264/-	409/- per doz.

SCREW DOWN STOP COCKS WITH TWO UNIONS FOR LEAD.

¼ in.	⅜ in.	1 in.	1¼ in.	1½ in.	2 in.
46/6	68/6	106/-	205/-	307/-	590/- per doz.

DOUBLE NUT BOILER SCREWS.

¼ in.	⅜ in.	1 in.	1¼ in.	1½ in.	2 in.
7/6	10/6	16/-	29/-	36/-	56/- per doz.

HEAVY CROYDON BALL VALVES.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.
36/-	59/6	96/-	205/-	278/- per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
10/-	12/-	18/6	32/-	44/-	48/- per doz.

BRASS FERRULES OR SLEEVES.

1¼ in.	2 in.	3 in.	3½ in.	4 in.
10/-	12/-	22/6	31/-	45/6 per doz.

DRAWN LEAD TRAPS WITH BRASS CLEANING SCREWS.

	1¼ in.	1½ in.	2 in.	3 in.
8 lb. Lead P...	24/6	32/6	49/-	72/- per doz.
8 lb. Lead S...	29/6	38/6	59/-	93/- per doz.

SOLDER.—Plumbers' 1/2; Tinmen's, 1/4; Blow-pipe, 1/7 per lb.

PAINTS, &c.

		£ s. d.
Raw Linseed Oil, in pipes	per gallon	0 3 0
" " " in barrels	"	0 3 2
" " " in drums	"	0 3 4
Boiled " " in barrels	"	0 3 5
" " " in drums	"	0 3 7
Turpentine, in barrels	"	0 2 11
" in drums (10 gals.)	"	0 3 1
Genuine Ground English White Lead, per ton		51 0 0

(In not less than 5-cwt. casks.)
EXTRA for 1-cwt. kegs over 5-cwt. casks is 2/9 cwt.

GENUINE WHITE LEAD PAINT.
"Father Thames." "Nine Elms," "Park," "Supremus," "St. Pauls," "Morganswyte," "Polacco," "J" Brand, and other best brands (in 14-lb. tins) not less than 5-cwt. lots per ton delivered 70 0 0
Red Lead, Dry (packages extra) .. per ton 42 0 0
Best Linseed Oil Putty ..... per cwt. 0 14 9
Size. XD quality ..... fkn. 0 3 6

VARNISHES, &c.

		Per gallon.
Oak Varnish	Outside	0 14 0
Fine Do.	"	0 16 0
Fine Copal	"	0 18 0
Pale Copal	"	1 0 0
Pale Opal Carriage	"	1 4 0
Best do.	"	1 12 0
Floor Varnish	Inside	0 18 0
Fine Pale Paper	"	0 18 0
Fine Copal Cabinet	"	1 2 0
Fine Copal Flatting	"	1 0 0
Hard Drying Oak	"	0 18 0
Fine Hard Drying Oak	"	0 19 6
Fine Copal Varnish	"	1 0 6
Pale do.	"	1 12 0
Best do.	"	1 2 6
Best Japan Gold Size		1 12 6
Best Black Japan		0 10 0
Oak and Mahogany Stain (water)		0 12 0
Brunswick Black		0 7 6
Berlin Black		0 14 0
Knotting (patent)		0 15 0
French and Brush Polish		0 12 0
Liquid Dryers in Terebene		0 9 0
Cuirass Black Enamel		0 7 0

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

ORDINARY GLAZING QUALITY AND SELECTED GLAZING QUALITY.

	per ft. super.		per ft. super.
18 oz. O.Q.	2½d.	32 oz. O.Q.	6d.
18 " S.Q.	2¾d.	32 " S.Q.	6¾d.
24 " O.Q.	3¼d.	Obscured Sheet, 18 oz.	3d.
24 " S.Q.	3¾d.	" " 24 "	4¼d.
26 " O.Q.	3¾d.	Fluted 21 oz.	9d.
26 " S.Q.	4¼d.	Em'lld 18 oz., 5½d., 24 oz.	6¾d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE AND FIGURED CATHEDRAL, ETC., IN CUT SIZES.

	Per ft.
Rolled plate, ¼ in.	5½d.
Rough cast double rolled, ⅜ in.	6¼d.
Rough cast double rolled, ½ in.	6¾d.
Figured rolled, etc., white	6¼d.
Figured rolled, etc., tinted	9½d.
Rolled Sheet	6d.
White rolled cathedral	6d.
Tinted rolled cathedral	8¼d.

Rolled plate is the same price as rough cast double rolled.

	Per ft. s. d.
Reeded, Broad Reeded, Cross Reeded and Chevron Reeded, ¼ in. thick	0 10½
Wire Rolled, ¼ in. thick	0 9½
Wired Cast, ¼ in. thick	0 9½
"Calorex" Sheet, 21 oz.	2 6
" " 32 oz.	4 0
" Cast, ¼ in. thick	0 10
" " ⅜ in. thick	1 0
" " ½ in. thick	1 2

"VITA" GLASS.

Clearsheet—not exceeding 1 foot	1 0
" 2 feet	1 3
" over 2 feet	1 9
Polished plate not exceeding 1 foot	1 6
" 2 feet	3 0
Cathedral—not exceeding 1 foot	1 0
" larger sizes	1 6
Horticultural Sheet and Cathedral "Vita" Glass. Sizes up to 24 inches by 18 inches or not exceeding 3 feet	1 0
3/16 in. Wired Georgian Design. Sizes up to 96 inches long by up to 24 inches wide	2 6

LEAD, &c.

(Delivered in London.)	Per ton. £ s. d.
LEAD.—Sheet, English, 4 lb. and up	24 5 0
Pipe in coils	23 15 0
Soil pipe	29 5 0
Compo pipe	31 0 0

NOTE.—Country delivery, 20/- per ton extra, lots under 3 cwt. 4/- per cwt. extra and over 3 cwt. and under 5 cwt., 2/6 per cwt. extra. Cut to sizes, 4/- per cwt. extra.

Old lead, ex London area, at Mills ..... per ton £14 0 0

THE SCOTTISH BUILDER

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Where business representatives cannot be seen personally at this stage, this should be mentioned. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Wednesday morning.

ABERDEEN. — SCHOOL.—The T.C. are to proceed with a new primary school at Middlefield. The architect is Mr. J. A. Ogg Allan, F.R.I.B.A., 73A, Union-street.

ABERDEENSHIRE. — ALTERATIONS.—The County E.C. are to carry out alterations at the New Byth school. The architect is Mr. W. L. Duncan, Turriff.

AYR.—HOUSES.—The T.C. are to make representations to the Department of Health for permission to erect houses of two apartments, with bathrooms and usual offices, with subsidy.

AYRSHIRE.—SCHOOLS.—The County E.C. propose to spend £98,000 on building schemes up till May, 1939. The chief schemes include: Improvements to Ayr Academy, £15,000; Cumnock Academy, £12,000; Auchinleck School, £6,000; Kilmaurs School, £4,000; Troon School, £4,000; Braehead School, Ayr, £5,000; Crofthouse School, £6,000; Beith Academy, £4,560; Dalry Junior Instruction Centre, £4,000.

BARRHEAD.—HOUSES.—Plans to be prepared for houses in Kilburn-street. Mr. William Baillie, architect, 2, West Regent-street, Glasgow.

CARRADALE.—FACTORY.—The proposal to establish a factory at Carradale, Kintyre, for the extraction of oil from the liver of sharks, was approved at a meeting of the Public Health Committee of Argyll C.C., on behalf of Mr. A. T. Watkins.

DUDDINGSTON.—EXTENSIONS.—Plans are to be prepared for reconstruction and extensions to the Mid Lothian Brewery for Messrs. Dryborough and Co. Messrs. Richardson McKay, 4, Melville-street, Edinburgh, are the architects.

DUNDEE. — BUILDINGS. — The following plans have been submitted to the T.C.: Adelaide-terrace—garage for the Session of St. David's Parish Church, architects, Lowe and Barrie, 104, Commercial-street; Glamis-road, off—bungalows for Albert Thain, Ltd.; North Tay-street (29-33)—alterations for W. and R. Brownlee, Ltd.

DUNFERMLINE. — RECONSTRUCTION.—The Dean of Guild Court has granted permission to the Fife Electric Power Co. to reconstruct the former Labour Exchange, East Port-street, and convert it into display and showrooms at £4,400.

FALKIRK.—BUILDINGS.—Plans were approved by the Dean of Guild Court for Messrs. James Grant and Co., Ltd., Jamaica-street, Glasgow, to alter and extend premises at Cow Wynd, at £3,600; the Brockville Greyhound Racing Stadium managers to build a £900 stand for spectators at the racing course; and the T.C.'s £1,000 plans for public conveniences at Bainsford.

GLASGOW. — BUILDING.—Plans in hand for 108 three-, 62 four-, and 10 five-apartment houses, flatted and cottage type in Paisley-road West. Mr. William McNab, Housing Architect, Director's Office, Trongate.—Plans prepared and approved for alterations and additions at 123 to 133, Sauchiehall-street. Messrs. Clarke, Bell and Craigie, architects, 227, Bath-street.

GREENOCK. — RECONSTRUCTION.—Plans prepared for reconstruction and extensions to business premises in Bruce-street and Holmscroft-street, for which Mr. James Lindsay, 248, West Regent-street, Glasgow, is the architect.

GREENOCK. — HOSPITAL.—The Dean of Guild Court has passed the plans prepared by Messrs. James Miller and George Miller, architects, 16, Blythswood-square, Glasgow, for a new Ear, Nose and Throat Hospital to cost at least £20,000. Provision is to be made for outdoor dispensary, nurses' and matrons' homes, also

BUILDING TRADE WAGES IN SCOTLAND

Following are grade rates authorised by the Scottish N.J.C. from April 1. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

Grade Classification	A	A^1	A^2	A^3	B	B^1
Craftsmen	1/8	1/7½	1/7	1/6½	1/6	1/5½
Labourers	1/3	1/2¾	1/2¼	1/2	1/1½	1/1¼

Aberdeen	A	East Fife (embraced by a line from Largo to Kingsbarns and eastward to the Coast)	B
Ayrshire	A		
Banff	B		
Berwickshire	A^2		
Bridge of Allan	A	East Lothian	A
Broughty Ferry	A	Edinburgh	A
Clackmannanshire	A	Fifeshire (with the exceptions of towns in East Fife which are under Grade B)	A
Doune	A		
Dunblane	A		
Dumbartonshire	A	Forfarshire	A
Dumfriesshire	A^1	Glasgow	A
Dundee	A	Greenock	A
Dunoon	A	Hamilton	A
Inverness	*		
Inverurie	A^1		
Kincardineshire	A^2		
Kinross-shire	A		
Lanarkshire	A		
Mid-Lothian	A		
Monifieth	A		
Moray and Nairn	B		
Newport	A		
Peebleshire	A^2		
Perth	A	Perthshire	A
Peterhead	A		
Renfrewshire	A		
Rothesay	A		
Roxburghshire	A^1		
St. Andrews	A		
Selkirkshire	A^1		
Stewartry	A^1		
Stirlingshire	A		
Stornoway	A^1		
Tayport	A		
West Lothian	A		

* This town has its own rates: Masons, 1/6; Carpenters, 1/6; Slaters, 1/6; Plumbers, 1/6; Plasterers, 1/6. Painters, 1/6; and Labourers, 10d. to 1/-.

The information given in this table is copyright. The rates of wages in England and Wales are given on page 812

operating theatre, and administrative accommodation and offices.

GREENOCK.—HOUSES.—The T.C. has decided to build 100 timber houses of the same type as erected in Hull.

HAMILTON.—SHOWROOMS.—The Dean of Guild Court has granted permission to the T.C. Electricity Department to erect showrooms and a demonstration hall in Almada-street at £5,000.

HAMILTON. — WORKSHOPS.—New workshops and storage accommodation are to be erected at the Imperial Bolt Works, Clydesdale-street. The architect is Mr. A. Cullen, F.R.I.B.A., 92, Cadzow-street.

KIRKCOLM.—ADDITIONS.—Plans are to be prepared for reconstruction and additions to the public school. Mr. G. Logan, Architect, County Education Offices, Stranraer.

KIRKINTILLOCH. — HOUSES.—The T.C. have decided to build 50 timber houses at Hillhead, while a further 128 houses are to be built on the Greens estate.

MILNGAVIE. — CLUBHOUSE.—The Milngavie Golf Club has decided to erect a new clubhouse at £7,500.

PORTSOY.—HOUSES.—The T.C. have decided to erect 22 houses.

RENTON.—SCHOOL.—Plans are to be prepared for a new school, the architect being Mr. Joseph Weekes, 18, Park-circus, Glasgow.

RUTHERGLEN. — CHURCH.—The Dean of Guild Court has granted permission to the Roman Catholic Archdiocese of Glasgow to erect a new church in connection with St. Columbcille's Church in Main-street, at £25,000. The new church will have accommodation for 1,050 people, and the contractors are Messrs. M'Ghee and Sons, Paisley.

STIRLINGSHIRE.—BUILDING.—The Plans Sub-Committee of the Stirlingshire C.C. have approved of the following plans: C.C., layout and type plans for 12 three-apartment, 10 four-apartment, and 6 five-apartment houses at Banknock; 10 three-apartment and 4 four-apartment houses at Dunipace; 10 three-apartment, 8 four-apartment, and 2 five-apartment houses at Banton. Architect, Mr. D. W. Glass, 14, Dumbarton-road, Stirling. Stirling District Mental Hospital Joint Board, addition of 112 bedrooms, dining-hall, etc., to the nurses' home at Stirling District Mental Hospital. Architects, A. and W. Black, 5, King's-court, Falkirk. C.C., addition to the Inversnaid Schoolhouse. Architect, A. N. Malcolm, County Architect, Stirling.

STRATHAVON. — ALTERATIONS.—Plans are in the hands of Messrs. Frank Burnet and Boston, 180, Hope-street, Glasgow, for alterations at the Royal Bank, for the Royal Bank Corporation, Ltd., Buchanan-street, Glasgow.

UDDINGSTON.—HOUSES.—Plans are to be prepared by Mr. William Brown, Lanarkshire County Housing Architect, Clydesdale-street, Hamilton, for 60 houses.

WHITHORN.—EXTENSIONS.—Plans to be prepared by Mr. George Logan, County Education Offices, Stranraer, for reconstruction and extensions to the public school.

TENDERS ACCEPTED

Aberdeen.—Automatic telephone exchange at Seafield-gro. and Thorngrove-av. James Wilson Paterson, architect, 122, George-st., Edinburgh. David Reid & Gibson, quantity surveyors, 4, Melville-st., Queensferry-rd., Edinburgh :—Excavation, brick and building, *Alexander Rattray, Hardgate, Aberdeen.

Baillieston.—Housing scheme on the Garrowhill housing estate. George Arthur & Son, architects and quantity surveyors, The New Cross, Airdrie :—Excavation, brick and mason, *Henry Boot (Garden Estates), Ltd., Garrowhill.

Calderwood.—Painting, etc., at Calderwood primary school. John Stewart, architect, Albert-st., Motherwell :—*Hillan & Allan, Bothwell, £442 0s. 1d.

Clarkston.—50 houses at Firenest-av. and Campson-gdns. N. McFadye, architect, Birland-av., Bearsden :—Excavation, brick and building, *J. Lawrence & Co. (Glasgow), Ltd., Glasgow; plumber work and sanitary engineering, etc., *J. Y. Symington & Co., Govanhill; plaster work and lathing, etc., *Archibald MacKellar, Townhead; slater work and roughcasting, etc., *A. C. Whyte & Co., Ltd., Pollockshaws; joinery, carpentry and ironmongery, *The Lawrence Building Co., Ltd., Glasgow; painter, glazing and allied works, etc., *J. Chisholme & Son, Govan; electrical fittings and installations, *K. McKellar & Co., Govanhill; iron railings, gates and allied works, *T. & R. Fleming & Co., Glasgow.

Edinburgh.—Demolition at St. Andrews-sq. and George-st. and erection of a block of offices, etc., for the Caledonian Insurance Co., Ltd. L. G. Thomson, architect, Ainslie-pl. Reid & Gibson, measurers, Melville-st. :—Excavation, brick and mason, *W. Arnott McLeod & Co., Ltd.; steel structural, *Redpath Brown & Co., Ltd.; plumber work and sanitary fittings, *W. Nicol & Son, Ltd.; electrical fittings and installation, *W. A. Smith & Co.; heating engineering and installation, etc., *Ashwell & Nesbit, Glasgow. (Remainder of Edinburgh.)

Glasgow.—Telephone exchange at Pollockshaws-rd. and Cumberland-st. James Wilson Paterson, architect, 122, George-st., Edinburgh. Hugh A. Low & Usherwood, quantity surveyors, 257, West George-st., Glasgow :—Excavation, brick and building, *Brown, Fraser & Co., Ltd., Langside, Glasgow.

Hareleeshill.—90 houses on the Larkhall area. William Brown, Lanarkshire County Housing Architect, Clydesdale-st., Hamilton :—Excavation, brick and building, *J. C. Burns & Co., Larkhall and Hamilton, £20,257 1s. 8d.; joinery, carpentry and ironmongery, *Wallace & Young, Hamilton, £14,761 10s. 1d.; slater work and roughcasting, etc., *J. & A. Rowatt & Co., Hamilton, £4,192 14s. 7d.; plumber work and sanitary engineering, etc., *G. Ferguson & Son, Ltd., Airdrie, £4,707 16s.; plaster work and lathing, etc., *R. Longmuir, Larkhall, £1,864 14s. 7d.; electrical fittings and installation, etc., *J. Stuart Denholm, Pollockshields, £654 14s. 4d.; painter work and allied services, etc., *J. C. Sweet, Hamilton, £1,076 17s. 4d.

Peterhead.—Houses on the Buckhaven housing site, for Corporation. John Dickie, Burgh Architect and quantity surveyor :—Excavation, brick and building, *J. Shewan, New Pitsligo; joinery, carpentry and ironmongery, *J. May, Peterhead; glazing and allied works, etc., *G. Wood (Aberdeen), Ltd., Peterhead; plumber works and sanitary engineering, etc., *John Donaldson, Peterhead; plaster work and lathing, etc., *W. Shand, Peterhead; slater work and roughcasting, etc., *W. Simpson & Son, Peterhead; electrical fittings and installation, etc., *Peterhead Electrical Engineering Co., Ltd.; painting and allied works, etc., *G. Wood (Aberdeen), Ltd., Aberdeen.

Pitlochry.—Reconstruction and extensions to the Mansion House of Lagreach, for new private hotel. Messrs. J. Stewart, McGavin & R. A. Scrymageur, architects, Ward-rd., Dundee :—Excavation, brick and mason, *J. Duff & Sons, Dalreach, Strathlay; plumber work and sanitary engineering, etc., *Colin Ward & Sons, Montrose; electrical fittings and installation, *R. Kilpatrick & Son, Dundee; heating, engineering and installation, etc., *D. E. Stewart & Sons, Pitlochry.

Waterton.—28 houses, for Aberdeenshire C.C. :—Excavation, brick and drainage work, *W. & A. Stewart, Aberdeen; carpenter, *G. Lyall, jun., Aberdeen; plumber, *J. Murray, Bucksburn; slater, *C. McDonald & Sons, Dyce; plaster, *W. Masson & Son, Aberdeen; electrical, *R. A. Mair, Aberdeen.

TRADE NEWS

New Catalogue and Booklet.

Messrs. Ruston and Hornsby, Ltd., engineers, Lincoln, have recently issued a booklet entitled "Steam for All Laundries," and their latest locomotive catalogue. "Steam for All Laundries" shows that for the small laundry the firm recommend their vertical "Thermax" boiler, a steamer supplied in sizes ranging from 420 to 5,000 lb. per hour, and designed for providing rapid steaming and easy accessibility for cleaning tubes. For the larger laundry there is the horizontal "Thermax" boiler, the boiler where space is limited and where higher pressure and efficiencies are required. Descriptions and summaries of the advantages of these types of boiler are given.

The new locomotive catalogue states that the Ruston locomotive is now made in five sizes ranging from 11-13 b.h.p. to 44-48 b.h.p., and hundreds of these machines are at present engaged on a wide variety of jobs. One important advantage claimed for this type of locomotive is its low running cost, due principally to the prime mover. Every locomotive is fitted with a Ruston four-stroke vertical oil engine unit, and other important features of the Ruston loco described in the catalogue are the constant mesh 3-speed gearbox, and the method of drive and of springing which obviate chain snatch in all circumstances. Tables of sizes, hauling capacities, etc., are also given. Copies of the booklet and/or catalogue will be forwarded, free of charge, by the company.

A Clay Tile Catalogue.

A new catalogue has been issued by Messrs. Wheatly & Co., Ltd., makers of clay plain tiles, clay pantiles, and quarry tiles, Springfield Tileries, Trent Vale, Stoke-on-Trent. The company claim that for over 65 years they have not only manufactured clay roofing and flooring tiles of high efficiency and pleasant appearance, but have also made it an aim to be expert in building practice in relation to them. To this end the company have specialised for many years in producing tiles of special colour, shape and texture to the requirements of architects and other users.

The catalogue gives details of the various sizes and colours in which quarry tiles, plain tiles, roofing tiles and pantiles are available, and also includes instructions on their laying and maintenance. Roofing data, with recommendations as to pitch and lap in relation to various degrees of exposure, are also given.

Metal Windows, Doors and Patent Glazing.

Messrs. Williams and Williams, Ltd., Reliance Works, Chester, who supplied their metal windows, doors, screens, staircase and balustrading for the Glass House at the Ideal Home Exhibition, Olympia, have recently published their comprehensive No. 7 catalogue, which gives complete details of their metal windows, doors and patent glazing; also of the usual standard residence and factory windows and dimensioned drawings for the setting out of bay windows. So far as special windows are concerned, prominence has been given to the requirements of the modern architect. Two types of sliding and folding windows are illustrated, and fixing details are given of the firm's system of aluminium roof glazing. Also included in this interesting catalogue are particulars of standard lanterns with the complete roof in aluminium.

Pneumatic Transmission Tubes.

The various types of Sturtevant single-tube systems and the numerous uses to which they may be applied are shown in "Pneumatic Dispatch No. 1,902," the latest publication of Sturtevant Engineering Co., Ltd., 147, Queen Victoria-street, E.C.4. The Sturtevant single-tube system, in its simplest form, consists of one tube laid between two points, for transmission in either one direction or the other, by pressure or suction, by reversing the flow of air in the tube. The Sturtevant double system is used where rapid service is required in each direction, and consists of a pair of tubes laid between the points to be connected. The publication contains many photographs and descriptions of these pneumatic transmission tubes.

Timber Buildings Booklet.

Messrs. D. McMaster and Co., Mount Bures Works, Bures, Essex, have issued a booklet giving details of their timber buildings, which include garden shelters, glasshouses, aviaries, garages, beach huts, bungalows, village halls, sheds, kennels, etc. In an introduction to the booklet it is stated that the weatherboarding used by the firm maintains the nominal thickness at each edge and is not of the pattern used where the thickness at one end is under ¼ in.

Timber Houses.

Typical plans for roofing, including a 40-ft. timber roof truss, and other constructions, are given in a booklet recently published by the Timber Development Association, entitled "Timber Houses : Their Uses, Advantages and Construction." The booklet also contains notes on by-laws affecting the construction of timber houses, fire risks, maintenance, comfort and suitable timbers.

A General Catalogue.

The new general catalogue (No. 19) issued by Messrs. Frederick Braby and Co., Ltd., sheet metal workers, galvanisers and structural engineers, Fitzroy Works, 352-364, Euston-road, N.W.1, contains prices and patterns which supersede those previously in force, and includes manufactures of a general character such as perforated zinc, cisterns, tanks, cylinders, hollowware, barrows, wirework, chimney-pots, ventilators, steel sheets, copper, brass, etc. The catalogue includes a list of discounts.

"Oslo Court."

We are asked to state that the whole of the roofing work at "Oslo Court," Regent's Park (illustrated in our last issue), was carried out by Messrs. Macartney, Ltd., of Carlton House, Regent-street, S.W.1, and 2, Eldon-square, Newcastle-upon-Tyne The "Maclast" roofing system was adopted.

NEW COMPANIES

THE particulars quoted below have been compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, of 116 and 117, Chancery-lane, W.C.2, from the documents available at the Companies Registry.

JAMES STRONG, LTD (337,033). Registered February 19. 37/38, Mitre-street, E.C.3. Builders' merchants, etc. Nominal capital, £1,000.

W. S. AND H. DEAN, LTD. (337,043). Registered February 19. Joiners, builders and contractors. Back Eastbourne-road, Linthorpe, Middlesbrough. Nominal capital, £2,000.

W. FORSTER (DURHAM), LTD. (337,104). Registered February 22. 1, Lansdowne-crescent, Bowburn, Co. Durham. Builders and contractors, etc. Nominal capital, £2,000.

ECONOMIC HOT WATER SUPPLY CO. (PONTARDAWE), LTD. (337,087). Registered February 22. Manufacturers of and dealers in sanitary ware, heating and ventilating plant, etc. Nominal capital, £2,000. J. R. Williams, Western-road, Pontardawe.

J. CANNON AND SON, LTD. (337,022). Registered February 19. 12, Shelford-place, Church-street, Stoke Newington, N.16. Builders, contractors and decorators, etc. Nominal capital, £5,100.

WILLIAM DAVIS (WOKING), LTD. (339,220). Registered April 11. Manufacturers of and dealers in bricks and slates. Nominal capital, £4,000. W. H. T. Davis, 2, Brickfield Cottages, Robin Hood-road, Knaphill, Woking.

BRITISH ARTID PLASTICS, LTD. (339,177). Registered April 11. Manufacturers of and dealers in plastics and plastic materials, etc. Nominal capital, £10,000. A. B. Inglis, 166, Norbiton Hall, Kingston-on-Thames.

CONOLEY, WRIGHT, LTD. (339,080). Registered April 8. Builders and decorators, etc. Nominal capital, £2,000. G. F. Wright, Hobbs Cross House, Harlow.

SEGAL AND BERMAN, LTD. (339,105). Registered April 8. 118-120, High-road, Tottenham, N.15. Builders' and decorators' merchants, etc. Nominal capital, £2,000.

K. E. NICHOLAS, LTD. (339,095). Registered April 8. 9, Western-mansions, Western-parade, Barnet. Builders and contractors, etc. Nominal capital, £1,500.

JOHN PEARCE (INTERIOR DECORATORS), LTD. (339,094). Registered April 8. 53, Woodstock-road, Golders Green, N.W.11. Manufacturers of and dealers in plastic and moulding materials. Nominal capital, £1,000.

R. J. MASSEY, LTD. (339,103). Registered April 8. 293, Chester-road, Macclesfield. Builders, bricklayers, etc. Nominal capital, £1,000.

SOUTH LONDON DECORATORS, LTD. (339.170). Registered April 9. 72/74, Gipsy-hill, S.E.27. Decorators, etc. Nominal capital, £1.000.

A. G. EARL AND J. L. EARL, LTD. (339,009). Registered April 7. Ivy Cottage, Bell-lane, Fenstanton. Builders and contractors, etc. Nominal capital, £2.000.

HALL PARK (PADDINGTON) ESTATES CO., LTD. (339,030). Registered April 7. Builders, contractors, etc. Nominal capital, £55,000. E. C. H. Hall, Pillhead House, Bideford, Devon.

W. H. HELLIER (CONTRACTORS), LTD. (338.995). Registered April 6. 67, Northern-parade, Portsmouth. Builders, contractors, etc. Nominal capital, £1.000.

SUMMERTOWN INVESTMENTS, LTD. (338.991). Registered April 6. Builders, etc. Nominal capital. £1.000. H. Watson, 50, Wood End-road, Walsall.

R. PARTINGTON AND SON, LTD. (338,978). Registered April 6. The Lodge, Middleton, Manchester. Builders and contractors. Nominal capital, £2,500.

A. T. PEYTON AND LLOYD, LTD. (338.932) Registered April 6. 18, High-street, S.E.13. Builders, contractors, etc. Nominal capital, £1,000

M. TUCKER AND CO., LTD. (338.968). Registered April 6. Builders and contractors, etc. Nominal capital, £1.000. M. M. Tucker, 61, Scott'a-road, Southall.

TENDERS

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Wednesday morning.

* Denotes *accepted*.
† Denotes *Provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modification*.
¶ Denotes *accepted by H.M. Government departments*.

Andover.—18 houses on Drove, for T.C.:—
*Building & Public Works Construction Co., Ltd., Swindon £7,190

Belfast.—Public elementary school at Newtownbreda village, for Down County E.C.:—*C. & W. M'Quoid, Ltd., Belfast.

Bingley.—Alterations to Harden Spring works, for Joseph Steel & Sons, Ltd., Harden. J. B. Bailey, architect, North-st., Keighley:—Masons, *S. Greenwood & Son, Bradford; joiners, *James Rhodes & Son, Bingley; ironworks, *H. Barrett & Son, Ltd., Bradford; roof glazing, *W. H. Heywood & Co., Ltd., Huddersfield; plumbing, *J. Barrett & Son, Bingley; slaters, *Hill & Nelson, Ltd., Bradford; lifts, *Keighley Lifts, Ltd., Keighley.

Birkenhead.—New depot buildings at Houghton-rd., Upton, for T.C.:—*G. E. Dodd & Son, Birkenhead, £996 16s. 11d.

Cavan County.—Two houses at Belturbet, for C.C.:—*J. H. Maguire (£842) and *J. O'Rourke (£732).

Cork.—Improvements at Bantry school, for the Cork County E.C.:—*R. Kelly, Bantry, Co. Cork.

Denbighshire.—Maternity and child welfare centre at Denbigh, for C.C. G. D. Wiles, County Architect, Acton Hall, Wrexham:—*G. F. Sumner & Sons, Ltd., Ashfield, Stanstey, Wrexham, £4,173.

Dewsbury.—Sanitary fittings for 376 council houses, Overthorpe Park, Thorn Hill, for T.C. M. H. Forward, Borough Architect:—*A. Scott, 34, Wakefield-rd., Dewsbury, £1,750.

Dukinfield.—108 houses, Stanley Fields site, for T.C. E. N. Stannion, B.S.:—*James Ridyard & Sons, Ltd., Railway Saw-mills, Ashton-under-Lyne (In lieu of tender withdrawn.)

Durham.—Works, for C.C.:—Alterations and additions to the Spennymoor Alderman Wraith Secondary School—*Direct Labour, £29,418 (in lieu of tender withdrawn). Additions to Hookergate Council school—*G. W. Stoddart, Rowlands Gill, £6,440. Improvements to heating installation at South Moor school—*Selborne Domestic Eng. Co., Ltd., Newcastle-on-Tyne, £1,274; builders work—*G. W. Stoddart, Rowlands Gill, £2,345. Improvements to out-offices, play-sheds, and the provision of staff accommodation at Birtley George-st. school—*Sowerbys, Ltd., Newcastle-on-Tyne, £1,419. Alterations and additions to Council school at Langley Park—*W. Wilson, Spennymoor (cost, £20,000). Alterations and additions to the Peases West Council school—*Crook Construction Co., Crook, £2,614.

DON'T TENDER UNSUCCESSFULLY
SECURE CONTRACTS WITH

THE STEEL SCAFFOLDING CO., LTD.
Imperial House, 80, Regent St., London, W.1
Telephone: Regent 1157

Eccles.—158 houses, Worsley-rd., Worsley estate, Peel Green-rd. and Higher Croft, for T.C. T. Elce, E. and S.:—*F. E. Gill & Sons, Ashburton-rd., Trafford Park, Manchester, 16, £60,450.

Flint.—Erection of "Glanydon Hotel," Mostyn, for Ind Coope & Allsopp, Ltd., Craig y don, Llandudno. Arthur Hewitt, architect, Town Hall-bldgs., Llandudno:—*Brynaw Building Co., Llandudno.

Galway.—Cottages, for the County Board of Health:—2, *T. Mitchell, Woodlawn, £497; 4, *J. Farragher, Tuam, £1,194; and 1, *A. Connolly, Coolarne, £240.

Golborne.—(a) 84 houses, Golborne; (b) 42 houses, Lowton, and 12 houses, Culcheth. A. Clough, S.:—(a) *C. G. Holland & Son (1935), Ltd., 2, Dale-st., Kearsley, Farnworth, nr. Bolton, £29,418; (b) *Clough & Gaskell, Billinge-rd. Saw-mills, Pemberton, Wigan, £15,896.

Grimsby.—Building works at west end of generating station, for T.C.:—*Towle Bros., Grimsby, £788.

Halesowen.—Installation of hot water heating apparatus and domestic hot water supply at girls' senior school, for Worcestershire C.C.:—*Hopes Heating & Lighting, Ltd., Smethwick, £1,785.

Halifax.—Extensions to Heath grammar school, for the T.C. D. T. Lloyd Jones, B.E.. Quantities by B.E.:—

Mason—*Pickles Bros., Ltd., Halifax; joiner—*H. H. Brook, Sowerby Bridge; steelworker—*H. Newsome, Ltd., Leeds; slater and plasterer—*Lumb Bros., Halifax; plumber—*J. Holdsworth, Halifax; electrician—*J. Harrison & Co., Ltd., Halifax; heating—*G. N. Haden & Sons, Ltd., York.

Harpenden.—70 houses on Westfield estate, for U.D.C. Wm. H. Johnson, Assoc.M.Inst.C.E., surveyor:—

J. T. Walford, S.E.3	£33,459	10	0
A. P. C. Wray, Ltd., Hertford	32,656	0	0
John A. Wise, Harrow Weald	31,038	14	3
Bryce Building and Construction Co., Ltd., Hackbridge	30,600	0	0
David Nott, Luton	28,923	12	0
Harvey & Co., Harpenden	28,764	0	0
Payne Bros., Watford	28,234	0	0
New Era London Constructions, Ltd., London	28,070	0	0
H. Godman, St. Albans	27,840	0	0
E. S. Moss, Ltd., Hendon	27,770	0	0
H. Fidler & Sons, Ltd., Luton	27,580	0	0
H. N. Martin, Ltd., Bushey	27,272	0	0
J. Gerrard & Sons, Ltd., London	26,352	0	0
St. George's Building Works, Ltd., Oxford	25,985	0	0
Joseph Cartwright, Ltd., London	25,630	0	0
*H. Robinson & Son, 5, Cassiobury-drive, Watford	24,800	0	0

Huddersfield.—Rebuilding "Engine Tavern" public-house, Bradford-rd. Abbey & Hanson, architects, 11, Cloth Hall-st.:—*W. Mallinson & Sons, Albert-st., Lockwood, Huddersfield.

Huntingdon.—6 houses in Ambury Hill Field, for T.C. E. Saunders, architect and surveyor:—

Provincial Homes, Ltd., Cambridge	£5,198	0	
Loakes & Pettit, Ltd., Thrapston	4,365	0	
Pettits, Ltd., Godmanchester	4,000	7	
*F. B. Thackray & Co., Ltd., Huntingdon	3,684	0	

Huntingdon.—10 houses, for T.C.:—
*F. B. Thackray & Co., Ltd. £4,163

Hyde.—Alterations and improvements to small swimming bath, Union-st., for Corporation. J. H. Ward, B.S.:—*Wellerman Bros., Ltd., Edward-st., Hyde.

Leeds.—Maintenance works in connection with the Corporation's houses, shops and flats, Group No. 3 estates, comprising Middleton, Belle Isle, Barkly, Grove Hall, Hillidge-rd., and Dewsbury-rd. properties:—Builder and joiners—*J. Ford & Son; slaters—*J. Atkinson & Son; plasterer—*E. Dobson & Son; plumber—*E. Garnett; electricians—*Allenby & Stokell; painters—*H. Smith & Co. Group No. 4 estates, comprising Wyther, Westfield, Greenthorpe and Sandford properties:—Builder and joiners—*J. Ford & Son; slaters—*J. Atkinson & Son; plasterers—*The Yorkshire Plasterers, Ltd.; plumbing—*Rawcliffe & Learoyd; electricians—*Allenby & Stokell; painters—*Geo. Thompson (Leeds), Ltd. Various painting contracts for Housing Dept.:—508 houses at Crossgates—*T. H. Risling, £1,282; 162 houses and 4 shops at East End Park—*S. Ward, £353; 624 houses and 14 shops at Meanwood—*S. North, £1,578 9s. 7d.; 224 houses and 10 shops at Harehills-in.—*West & Son, £644 7s.; 1,389 houses and 4 shops at Barkly, Middleton and Grove Hall—*H. Garrett, £3,108 12s.; 68 houses at Headingley—*H. A. Ward, £165; 228 cottage flats at various estates—*S. North, £279 6s.

Leix.—42 houses at Mountmellick, for the County Board of Health:—*P. Dempsey, Mountmellick, £15,002.

Limerick.—150 houses at Janesboro', for Corporation :—*P. Molloy & Sons, £69,466.

Lincoln.—(a) 24 flats, Drapery site; (b) 8 two-bedroom houses, Saxon-st. and Westgate; (c) 26 flats and 6 shops, Ashtons Court site; (d) 8 bungalows, 17 two-bedroom houses and 3 three-bedroom houses in Vere-st. and Lark-ln., for T.C. A. Adlington, B.S. :—*Direct Labour (a) £8,500, (b) £2,610, (c) £9,700, (d) £9,770.

¶London.—Tenders accepted by H.M.O.W. for week ended April 13:—Table tops and pedestals, Controller, Lord Roberts Memorial Workshops, 122, Brompton-rd., S.W.3; oak washstands, Wake & Dean, Ltd., Yatton, nr. Bristol; scourers, R. Wilman & Sons, Ltd., Station Mills, Hadfield, Manchester; dining chairs, G. H. & S. Keen, Ltd., Oxford-rd., High Wycombe; Middleton (Bognor) telephone exchange, erection, Mr. A. J. G. Jones, Hatford, The Causeway, Petersfield; castors for movable troughs, British Castors, Ltd., Albion Works, Dartmouth-st., Birmingham, 7; label holders for drop bag fittings, J. & E. Bates & Sons, Ltd., Scarborough works, Temple-st., Wolverhampton; folding divisions, single and double, G. A. Harvey & Co. (London), Ltd., Woolwich-rd., S.E.7; filing racks, yellow deal, Drake & Warters, Ltd., New Wells, Wakefield, and Duncan Tucker (Tottenham), Ltd., Lawrence-rd., South Tottenham, N.15; batten racking, yellow deal, King & Co. (Northampton), Ltd., 59-61, Moore-st., Kingsley Park, Northampton; Chorley Royal Ordnance factory, pumping equipment, The Harland Engineering Co., Ltd., B.E.P. Works, Alloa; Edwalton telephone exchange, erection, C. & H. Reedman, Northfield-av., Sawley, Long Eaton; York House, Kingsway, W.C., shop fronts and fittings, Holttum & Green, Ltd., Finsbury works, Durham-rd., N.7; P.O. Recovered Stores, 338-346, Goswell-rd., packing, A. E. Lindsey & Son, Ltd., Lindsey Wharf, Angel-rd., Edmonton, N.; Rosyth Admiralty Training Establishment, hand operated travelling cranes, The Wharton Crane & Hoist Co., Ltd., Reddish, Stockport; National Gallery, S.W.1, construction of a protective store, Higgs & Hill, Ltd., 14, Godliman-st., E.C.4; South-Eastern District P.O., S.E.1, internal painting and cleaning, W. T. Pickering & Sons, Ltd., 234, Bushey Mill-ln., Watford.

¶London.—List of new contracts placed by H.M. Air Ministry for the week ended April 16:—St. Athan, Glam.—clothing to various buildings, Demolition & Construction Co., Ltd., London, S.W.1. Stanmore—building work and external services, Crosby & Co., Ltd., Farnham. Weston-super-Mare—hutting and external services, J. Gerrard & Sons, Ltd., Swinton, Manchester. Yatesbury—hutting and external services, J. Gerrard & Sons, Ltd., Swinton, Manchester. Wittering, Upper Heyford, Abingdon and Harwell—grass cutting and drying, Midland Grass Drying Co., Ltd., Northampton. Marham and Feltwell—artificers' work, R. G. Carter, Ltd., Drayton, Norwich. Detling—district heating, Brightside Foundry & Engineering Co., Ltd., Birmingham. Cosford—various buildings and external services, Sir Robert McAlpine & Sons (Midlands), Ltd., Liverpool. 2, Great Bromley and Dunkirk—underground cable scheme and internal wiring, Anderson Angell & Co., Ltd., London, E.C.2.

¶London.—The following works contracts have been placed by the War Office during the week ended April 13:—Weedon—reconstruction of storehouse, J. Ray, Ltd., Letchworth. Bovington—erection of married soldiers' quarters, J. B. Edwards & Co. (Whyteleafe), Ltd., London, W. Tidworth—construction of barrack blocks, J. Drewitt & Son, Bournemouth. Derby—storage for M.T. vehicles, Burton Constructional Engineering Co., Ltd., Burton-on-Trent. Irvine, Royal Ordnance Factory—floors and foundations, Matthew Muir, Kilmarnock. Aldershot—accommodation for Navy, Army and Air Force Institute—Universal Housing Co., Rickmansworth.

Machynlleth.—29 houses at Tre-owain, for U.D.C. :—

†John Bromley, Church Stretton £12,470

Macroom.—20 houses at Pigeon Fields, for U.D.C. :—*P. O'Flynn, Macroom, £6,380.

Market Drayton.—Headmaster's house at grammar school, for Shropshire E.C. A. G. Chant (A.), architect, 5, Belmont, Shrewsbury :—*T. Healey, Shropshire-st., Market Drayton, £1,445.

Millom.—Tannery, for Millom Tannery Co., and West Cumberland Industrial Development Co., Ltd., 1, Scotch-st., Whitehaven. G. A. Dod, architect, 17-18, Railway-approach, London Bridge, S.E.1 :—*P. A. Baines (Northern), Ltd., Culgaith. (Cost £30,000.)

Morecambe and Heysham.—Omnibus depot and offices, Heysham-rd., for T.C. R. B. Savage, B.S. :—Builders, *W. Huddlestone & Sons, 46, Chatsworth-rd., Morecambe; steelwork, *Foster Bros. (Preston), Ltd., Hope Foundry, Weir-st., Blackburn.

Mullingar.—Erection of annex at mental hospital, for Committee of Management :—*Phœnix Building Co., Ltd., Tullamore, £23,769.

Newcastle-on-Tyne.—Fire-storeyed warehouses in Gallowgate for Hindhaughs, Ltd. Marshall, Tweedy & Bourn, architects, Grainger House, Newcastle :—*W. Hall, Ltd., Derwentwater-rd., Gateshead-on-Tyne.

Thurrock.—Painting houses, for Council :—

	Little Thurrock, 42 houses.	Tilbury, 307 houses.	Tilbury. 310 houses.	Grays, 215 houses.	Aveley, 46 houses.	W. Thurrock, 70 houses.
Engineer and Surveyor ...	£173 3 10	£1,220 13 0	*£1,299 17 0	£795 11 10	£169 11 5	£253 12 9
Tokeley & Goodger	159 0 0	*1,196 0 0	1,282 0 0	*699 0 0	154 0 0	232 0 0
C. G. Sach	—	—	—	—	—	*203 3 0
J. Aslett	*148 14 0	1,309 18 0	1,300 12 0	749 10 0	165 8 0	244 0 0
W. E. Walsham	207 0 0	—	—	820 0 0	—	275 0 0
Ross & Payne	196 8 0	—	—	—	145 9 0	—
W. Osborn & Sons	161 1 10	1,341 15 0	1,432 6 0	741 16 0	159 0 0	235 0 0
A. Edmundson	—	—	—	—	*141 5 0	—
C. E. Thomas	—	—	—	725 0 0	—	—

Newcastle-on-Tyne.—Offices in Sandyford-rd, for Deuchar, brewers, Newcastle. S. H. Lawson, architect, Emerson-chams. :—*J. Jackson & Son, Corporation-st., Newcastle.

Newcastle-upon-Tyne.—Greenhouses at Jesmond Dene, for T.C. :—

*W. Richardson & Co., Darlington.

Newcastle-under-Lyme.—Drill hall, Liverpool-rd., for Staffordshire Association Territorial Army and Anti-Aircraft Battalion. Wood & Goldstraw, architects, Town Hall-chams., Tunstall :—Steelwork, *Heenan, Beddoe & Sturmey, Manchester; steel casements, *Williams & Williams' Ltd., Chester; concrete reinforcement, *Richard Hill & Co., Ltd., Middlesbrough; asphalting, *Val de Travers Asphalte & Paving Co., Ltd., Birmingham; reconstructed stone, *J. Wardle & Co., Longton.

North Finchley.—Store at Castle-rd. and Great North-rd. W. J. Lewis (F.), architect, Cranbrook House, Cranbrook-rd., Ilford :—

Walter Lawrence & Son, Ltd.	£17,396
Baker, Hammond & Laver, Ltd.	17,360
Richard Ginn & Son, Hertford	16,899
Allen Fairhead & Sons, Ltd.	16,828
W. A. Taylor, Finchley, N.12	16,530
C. H. Gibson, Ltd., Croydon	16,388
J. & R. Rooff, Ltd., E.13	16,265
*C. F. Day, Ltd., High-rd., N.12	15,853

North Walsham.—Works, for U.D.C. :—16 dwellings on Millfield estate, *B. E. Gotts, Mundesley, £5,248 13s. 6d.; 4 dwellings on White Horse Common, *B. E. Gotts, £1,192 9s. 10d.; road on Millfield estate, *Ayton Asphalte Co., Wymondham, £358 10s.

Nuneaton.—22 houses, Merner-rd., Hill Top housing estate, for T.C. R. C. Moon, B.S. :—*T. Barker & Son, 14, Swan-st., Loughborough, £16,296.

Oxford.—2 semi-detached cottages for caretaker and groundsman at Milham Ford school, for T.C. :—*Hayward & Co., Yarnton, £1,342 12s. 7d.

Portsmouth.—Roads and sewers in connection with the houses to be erected at Portsdown Hill :—‡H. E. Pitt, Ltd., £25,522 6s. 8d.

Portsmouth.—Sub-station, St. George's-sq., for T.C. :—*A. E. Porter & Sons, Ltd., £437.

Portsmouth.—66 flats and 6 shops at Wymering, for T.C. :—†J. W. G. Cronk, Ltd., £26,419 5s. 9d.

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Reigate.—50 houses at the Wood-st. housing site, for T.C. :—

Garsubil, Ltd., London, N.W.11	£28,795 0 0
Bryce Building & Construction Co., Ltd., Hackbridge	26,145 0 0
J. W. Cronk, Ltd., Brixton Hill, S.W.2	26,119 0 0
Atkinson & Potter Bros., Reigate	25,064 0 0
Charles H. Dow & Co., Grove Park, S.E.12	25,024 0 0
Alfred Cottage, Ltd., Coulsdon	24,957 6 4
Structural Contractors, Ltd., Westminster	22,887 0 0
Saunders (Contractors), Ltd., Burgess Hill	22,191 0 0
Henry Taylor (Epsom), Ltd., Epsom	22,129 0 0
Building & Public Works Construction Co., Ltd., Swindon...	21,650 0 0
*Knight Bros., Brighton	19,950 0 0
Epsom Garners Estates, Ltd., Epsom	17,675 0 0
Borough Surveyor's Estimate ...	20,639 0 0

Reigate.—Extension of Redhill public conveniences, for T.C. :—

Pink & Oram, Merstham	£1,111 0 0
G. F. Mackriell, Redhill	933 2 3
*G. Martin, Redhill	825 0 0

Repton.—Houses at Walton, Rosliston, Coton, etc., for R.D.C. :—38 houses, *Harris Bros., Marehay, nr. Derby; 10 houses, *W. D. Mitchell, Uttoxeter-rd., Duffield; and 2 houses, *W. Gaskin, High-st., Repton.

Ripon.—8 bungalows and 12 houses on Alma estate, for T.C. P. H. Molyneux, City E. :—

J. H. Coldbeck & Son, Ripon	£6,615 0
F. W. Richardson, Ripon	6,610 0
Thomas Robson, Harrogate	6,250 10
*Rall, Thomas & T. Lister, "Roseberry View," Middlesbrough-rd., Guisborough	6,194 0

Rotherham.—Shops and offices in Howard-st. :—*A. J. Pugh & Co.

Rotherham.—Bazaar stores, Westgate, for Marks and Spencer, Ltd., Michael House, Baker-st., W.1. Norman Jones & Rigby, architects, Williams Deacons Bank-chams., Lord-st., Southport :—*Bovis, Ltd., 82, South Audley-st., London, W.1.

Royton.—Houses.—162, also roads and sewers, for U.D.C. L. Cookson, A.M.Inst.C.E., surveyor :—

34 houses, Mill-st. and Bleasade-st.—*Whiteman & Ashton, 113, Foxdenton-la., Middleton Junction, Manchester.

Roads and sewers—*Geo. Dew & Co., Ltd., Bleasby-st., Oldham.

Sale.—Junior and infants' council school, Park-rd., with accommodation for 300 juniors and infants and nursery class for 35, for Cheshire E.C. F. Anstead Browne (F.), County Education Architect, Chester :—*E. Taylor & Co., Ltd., Ebor Saw Mills, Littleborough, £20,499.

Scunthorpe.—Territorial drill hall, Cottage Beck-rd., for 384th Anti-Aircraft Co., Royal Engineers (T.A.) :—*Quibell & Hardy, 17, Henry-st., Scunthorpe. (Estimated cost £10,000.)

Southport.—Extensions at Farnborough-rd. Council school, for T.C. :—

Hot-water installation—
*W. Morris & Bro., Ltd., Liverpool £561

Electric lighting installation—
*McGoff & Vickers, Ltd., Liverpool 224

Sanitary fittings—
*Musgrave (Liverpool), Ltd., Liverpool ... 435

Heating installation—
*J. Brookes & Co., Southport 1,447

Southport.—Nurses' home adjoining Christiana Hartley Maternity Hospital, Curzon-rd., for Trustees, H. L. Bunting, B.E. :—*B. R. Hunt & Sons, 127, Bispham-rd., Southport.

Stoke-on-Trent.—Sub-stations at Weston Coyney and Hadderidge, for E.C. :—*Sambrook Bros., Ltd., Hamil-rd., Burslem, £2,241.

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Stourbridge.—Installation of hot water heating apparatus and hot water supply at senior council school, Grange-ln., for Worcestershire C.C. :—*Hopes Heating and Lighting, Ltd., Smethwick, Birmingham, £1,665.

Sunderland.—36 houses on High Barnes estate. W. & T. R. Milburn, architects, 17, Fawcett-st. :—*J. W. Ridley, Ltd., Park-ln., Sunderland.

Sunderland.—Alterations to offices in Dunning-st. and Queen-st., for T.C. :—*D. & J. Ranken, Ltd., Stockton-rd., Sunderland, £8,848.

Surrey.—Alterations and additions at Chipstead Council schools, for E.C. :—
*H. Bacon Sons, Ltd., Coulsdon £4,500

Swinton.—Territorial drill hall, Manchester-rd., Clifton, for 39th Lancashire Fusiliers Anti-Aircraft Battalion, Parsonage. Col. Hopkinson, architect, 30, Crompton-st., Bury :—*J. Holland & Co. (1935), Ltd., 2, Dale-st., Kearsley, Farnworth, nr. Bolton.

Torquay.—Pavilion at Abbey-gdns., for T.C. W. Ladmore, B.E. :—*F. T. Stoneman, Castle Rock, Barton, Torquay, £595 10s.

Tynemouth.—214 houses on Ridges estate, for T.C. D. M. O'Herlihy, B.E., 19, Howard-st., North Shields :—*Rigby & Appleton, Ltd., North Shields (accepted in lieu of previous contract).

Walsall.—Adaptation of Dundrennan House for nurses' home, for Board of Walsall General Hospital. Jeffreys & Shipley, architects, King's-court, Bridge-st. :—*Brockhurst & Wood, Ward-st., Walsall

Walton and Weybridge.—Lodge, at Burvale burial ground, for U.D.C. :—*C. Day & Son, Ltd., Walton, £628 2s.

Warrington.—Extensions to Winwick Mental Hospital, for Lancashire C.C. Richard Owens & Son, architects, 3, Crosshall-st., Liverpool :—Builders, *Frank Warburton & Son, Warrington; plumbing, *W. Winstanley & Co., Ltd., Warrington; slating, *W. Altham, Bolton; plastering, *A. R. Ball & Co., Ltd., Liverpool; steelwork, *Robert Watson & Co. (Constructional Engineers), Ltd., Bolton.

Wolverhampton.—92 houses at Pond-ln., for T.C. :—*A. M. Griffiths & Sons, Ltd., Wolverhampton, £37,626.

Worcestershire.—(a) Heating installation; (b) electrical work in new Catshill council school, Meadow-rd., Bromsgrove, for C.C. :—(a) *Brightside Foundry & Engineering Co., Ltd., 17, Summer-row, Birmingham, £1,339; (b) *Abell & Smith's Electrical Co., Ltd., Worcester, £300.

Wrangle (Lincs).—Erection of "Coach and Horses Inn," for Soames & Co., Ltd., The Brewery, Bourne. Traylen, Lenton & Warwick, architects, 43a, Priestgate, Peterborough :—*Wallhead Bros., Ruskington.

New Heston Public Baths.

Alpha Manufacturing and Electrical Co., Ltd., electrical contractors, 16, Cedars-road, Clapham, inform us that they have secured the contract for the electrical installation at the new Heston Public Baths for the Heston and Isleworth Borough Council.

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York.—(a) 74 houses and flats, Gale-ln. estate; (b) 44 flats and 12 houses, Dale-st., for T.C. C. J. Minter, City E. :—(a) *Sherriff & Co., Ltd., York, £33,500; (b) *J. F. Stephenson, Harrogate, £16,400.

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